

PREFATORY TABLE.

Showing the principal items of the Vital Statistics, etc., for 1909, relating to the West Riding Administrative County as a whole:—

AREA of Administrative County ... 1,673,473 acres

POPULATION, estimated to middle of 1909 ... 1,551,877 persons

SANITARY DISTRICTS, 162, namely:— 14 Non-County Boroughs

(For complete list see
Tables at end of report)

119 Other Urban Districts

29 Rural Sanitary Districts


	Year 1909.	Average of previous five years.
Birth Rate (Administrative County) ...	25·7 ...	26·8
Death Rate „ „ „ ...	14·4 ...	15·5
Zymotic Death Rate „ „ ...	1·0 ...	1·7
Phthisis Death Rate „ „ ...	0·9 ...	1·0
Respiratory Death Rate „ „ ...	2·4 ...	2·5
Infantile Mortality , i.e., Number of deaths under one year per 1000 births.	111 ...	136

The arrangement of the matter in the report is as follows:—
Part I deals with the general work of the County Health Department. *Part II* gives an account of the work undertaken in the Bacteriological Laboratory during the year. *Part III* is the Abstract of the Annual Reports of local Medical Officers of Health. *Part IV* consists of Statistical Addenda.

JAMES ROBT. KAYE,

County Medical Officer.

Wakefield,
August, 1910.



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PART I.

SUMMARY OF THE WORK OF THE COUNTY HEALTH DEPARTMENT.

It becomes increasingly difficult to partition this report into two major sections as required by the original instructions of the County Committee in 1889, viz.—one part dealing with the work of the County Medical Officer, and the other part consisting of an abstract of the reports of the local Medical Officers of Health. The matters dealt with in the local reports (after reviewing the vital statistics and the course of infectious sickness) are necessarily concerned with questions of water supply, housing, drainage, scavenging and other topics on which the County Health Department has also been locally concerned. Little would be gained by working out an account of the activities of the Central Department in relation to each district even if it were possible to do so. Part I. of this report will therefore deal chiefly with those matters of administration which are largely conducted from the centre, such as the Supervision of Midwives, Sale of Food and Drugs Acts, etc., while those manifold operations which are conducted chiefly through the local officers will necessarily be unpublished except so far as they are touched upon in Part III. The records show that during 1909 the County Health Department took direct local action on many occasions, for example,—water supplies, 31 special visits, hospitals 18, infectious outbreaks 25, cowsheds 24, nuisances 38. Opinions and consultations were given on innumerable subjects and occasions, while local inspections were of almost daily occurrence.

The staff underwent no change of personnel during the year.

Meetings, Reports, Etc.—Ten Meetings of the Public Health and Housing Committee and its Sub-Committees were held, and a very large number of other Committees were also attended. Special Reports were presented on questions of Housing, Water Supply, Lead Poisoning, Sanatoria, and Hospitals. A further instalment of the Sanitary Survey of the West Riding was presented, dealing with the 17 parishes in the Pateley Bridge Union. In July I attended the Congress of the Royal Sanitary Institute at Leeds, when I read a paper on “Ameliorative Measures indicated by School Medical Inspection.”

Parliamentary Work, Etc.—As usual, the Public and Private Bills affecting sanitary interests were referred to the Health Department for observations, and it may be well to record some of the points dealt with.

Wakefield Corporation Water Bill.—Although this Bill merely sought an extension of time for completing certain authorized works, the opportunity was taken by the Law and Parliamentary Committee of negotiating for the right of the Barkisland Urban Council to receive a supply of water on satisfactory terms. The request was met by the Corporation, as well as certain requirements of the Rishworth Urban Council.

Oldham Corporation Water Bill sought to make deep borings for the abstraction of the underground waters in the Saddleworth District,—proposals which were defeated on opposition.

Borough Extension Orders.—Opposition of the Dewsbury and Batley Extension Orders was ineffectual. In the case of Wakefield, the County Council opposition was not carried beyond the Local Inquiry. The following changes of boundary, therefore, came in operation at the dates shewn:—

9th November, 1909.—Wakefield absorbed Sandal.

31st March, 1910.—Batley absorbed part of Soothill Upper.

31st March, 1910.—Dewsbury took in Ravensthorpe, Soothill Nether, Thornhill, and the remaining part of Soothill Upper.

Public Bills and Orders.—Some very important sanitary legislation was before Parliament during 1909 calling for careful consideration by the Health Authorities. The Housing and Town Planning Bill ultimately became law on the 3rd December, 1909, and will be discussed in this report when dealing with Housing. The Milk and Dairies Bill did not get through all its stages, and this necessitated the withdrawal of the Tuberculosis Order, issued by the Board of Agriculture in anticipation of the passing of the Milk Bill. On both these measures the West Riding Sanitary Committee made detailed criticisms while supporting generally the need for such legislation.

Laboratory Work.—A separate part of this report gives details of the work accomplished in the Bacteriological Section of the County Health Laboratory during the year (see page 15). If the 9210 specimens examined had been uniformly spread over the year, we should have had something like 30 per working day, which is a sufficiently large number. When it is remembered, however, that the specimens fluctuate with the prevalence of disease, it will be realised that the work has often to be carried on under great pressure. The reports of the local Medical Officers of Health bear eloquent testimony to the valuable assistance given in the diagnosis of diphtheria, enteric fever and tuberculosis, and it is clear that we have not reached the limit of usefulness in this department. The laboratory is already somewhat cramped for room and convenience for making the large amount of media and other preparations required in the work. For this and other reasons we have had to curtail somewhat our activities in the chemical department. Water samples are now examined chiefly in the Public Analyst's Laboratory at Bradford, though we retain the branch dealing with the plumbo-solvent action of drinking waters. During the year 190 samples were examined and reported on in this connection.

Local Government Board Inquiries.—The following list gives the year's record of sanitary schemes put before the Local Govern-

ment Board by the various Sanitary Authorities of the Riding; that is to say, so far as the Board have notified the County Authority. There have also been a few similar inquiries held regarding Housing Schemes of which no intimation reached us officially. Seeing that the County Committee is now formally designated a "Housing Committee," it seems reasonable that they should have cognizance of the schemes put forward in the Riding under the Housing Acts.

Date	Sanitary District and Localities	Subject	Amount	Result
			£	
5.1.09	Wombwell	Water Supply	1470	Sanctioned
6.1.09	Southowram	Sewerage	1750	"
26.1.09	Kiveton Park R. North and South Anston ...	Sewerage & Disposal...	3750	"
27.1.09	Handsworth	Street Improvement ...	3000	Part Sanct'ned
29.1.09	Cudworth	Sewerage & Disposal...	1961	Sanctioned
19.2.09	Barnsley Boro'	Sewerage	200	"
25.2.09	Selby R. Brayton ...	Water Supply	440	"
2.3.09	Doncaster R. Askern ...	Sewerage & Disposal...	2190	"
3.3.09	" Bentley-with Arksey.	" "	8200	"
3.3.09	Wetherby R. Spofforth- with-Stockheld ...	Sewage Disposal ...	3760	"
3.3.09	Liversedge	" "	P.O.	Granted
4.3.09	Worsborough	Sewerage	400	Sanctioned
5.3.09	Mexborough	"	900	"
11.3.09	South Crosland	Refuse Tip	250	"
11.3.09	" "	Sewerage	420	"
16.3.09	Harrogate	Sewage Disposal ...	4500	"
16.3.09	"	Water Filters	2330	"
17.3.09	Mirfield	Street Improvement ...	261	"
17.3.09	"	Provision of Dépôt ...	622	"
17.3.09	"	Sewerage & Disposal...	621	"
18.3.09	Skipton R. Farnhill	" "	2728	Referred back
18.3.09	" Kildwick	" "	756	"
23.3.09	Hemsworth R. South Hiendley	Sewage Disposal ...	992	Sanctioned
23.3.09	Liversedge	Street Improvement ...	1522	"
24.3.09	Rotherham R. Laughton- en-le-Morthen ...	Sewerage & Disposal...	9875	Part Sanct'ned
24.3.09	Wetherby R. East Keswick	" "	2300	Sanctioned
25.3.09	Rotherham R. Aston- cum-Aughton ...	Sewage Disposal ...	467	"
26.3.09	Sedbergh R.	Isolation Hospital ...	1296	"

Date	Sanitary District and Localities	Subject	Amount	Result
6.4.09	Oakwell Joint Hospital District	Inclusion of Batley ...	—	„
7.4.09	Darfield	Sewage Disposal ...	6500	„
21.4.09	Todmorden B.	Sewerage & Disposal...	20740	Part Sanct'ne
22.4.09	Silsden	Sewage Disposal ...	1258	Sanctioned
4.5.09	Wetherby R. <i>Rigton</i> ...	Sewerage & Disposal...	179	Referred back
4.5.09	„ <i>Weeton</i> ...	„ „	4571	„
5.5.09	„ <i>Bramham</i> - <i>with-Oglethorpe</i>	„ „	4968	Sanctioned
5.5.09	„ <i>Clifford</i> ...	„ „	3032	„
6.5.09	Hemsworth R. <i>Brierley</i>	Sewerage	350	„
11.5.09	Skipton R. <i>Coniston</i> - <i>with-Kilnsey</i>	Water Supply	350	„
13.5.09	Castleford	Sewage Disposal ...	14835	„
18.5.09	Tadcaster R. <i>Towton</i>	Water Supply	90	Refused
21.5.09	Netherthong	Sewerage & Disposal...	2500	Suspended
3.6.09	Pontefract R. <i>Glass</i> <i>Houghton</i>	„ „	5000	Part Sanct'ne
4.6.09	Normanton	„ „	8850	Sanctioned
9.6.09	Cleckheaton	„ „	4821	„
10.6.09	Settle R. <i>Giggleswick</i> ...	Sewerage	465	Pending
13.7.09	Tadcaster R. <i>Sherburn</i>	Sewerage & Disposal...	3750	Referred back
14.7.09	Horsforth	Protection of Gathering Grounds	875	Sanctioned
15.7.09	Kiveton Park R. <i>Wales</i>	Sewerage & Disposal...	9000	
1.9.09	Doncaster R. <i>Bentley</i> - <i>w-Arksey</i>	Sewerage	3000	Sanctioned
2.9.09	Featherstone	Sewage Disposal ...	5159	Referred back
28.9.09	Barnoldswick	Street Improvement ...	2480	Sanctioned
29.9.09	Guiselley	Sewerage	550	„
5.10.09	Ossett	„ „	880	„
6.10.09	Bowland R. <i>Waddington</i>	Sewerage & Disposal...	300	„
19.10.09	Wakefield City	Sewage Disposal ...	33120	„
19.10.09	„	Street Improvement ...	2000	„
20.10.09	Skipton	Surface Water culvert	200	„
20.10.09	„	Sewage Disposal ...	1750	„
21.10.09	Saddleworth	„ „	2310	„
18.11.09	Settle R. <i>Austwick</i> ...	Water Supply	627	„
18.11.09	„ <i>Clapham-w</i> - <i>Newby</i>	„ „ „	973	„
25.11.09	Morley	Fire Engine	875	„
25.11.09	„	Paving	280	„
25.11.09	„	Sewerage	122	„
26.11.09	Tinsley Parish Council	Recreation Ground ...	2000	Part Sanct'ned

Isolation Hospitals.—Although the period of great activity in hospital building has passed, there are still many matters to engage the attention of the County Health Department in regard to the provision for isolating the large number of infectious cases which occur in the Riding. During 1909, special attention was given to the important subject of small-pox accommodation, and this is a matter which will have to be taken up very vigorously by many Local Authorities before they are in a position to cope with an extended prevalence. In order to bring the matter under discussion in a number of districts, the County Medical Officer issued formal reports under Sec. 6 of the Isolation Hospitals Act, 1893, as follows: Calverley, Farsley, Wortley Rural. These are by no means the only cases calling for attention, as may be gathered from a perusal of the reports of the local medical officers of health, several of which contain grave warnings as to the absence of satisfactory means for isolating small-pox cases.

As regards accommodation for other infectious diseases, the cases recently reported on are Wetherby Rural District, Stocksbridge, Garforth and Tadcaster Rural. Negotiations consequent on those reports are still going on. There are other places where the accommodation for general infectious diseases is only satisfactory in the absence of small-pox. In connection with the properly organized conjoint hospitals, questions of policy or of administration are continually cropping up, and among the matters dealt with during the year may be mentioned the following: heating arrangements at Penistone; staffing at Normanton; drainage at Kirkburton; overcrowding at one or two hospitals; departures from plans; questions of loans, etc. Visits of inspection were made on behalf of the West Riding Sanitary Committee, and on two of these visits we had the benefit of the company of Dr. H. F. Parsons of the Local Government Board.

In July a further conference of Matrons was promoted by County Councillor T. B. P. Ford, the Chairman of the Committee. It took place at the Hunslet Union Workhouse, and was well attended. An inspection was made of the Rothwell and District Joint Isolation Hospital, and various matters of administration were discussed with advantage.

The Nurses' Exchange, established in 1905, continues to be useful occasionally. During 1909 we received 9 applications for the loan of nurses, 3 of which we were able to serve with spare nurses from West Riding Hospitals, the remainder being obtained through other channels.

Tuberculosis.—The much-deferred scheme for a County Sanatorium has not yet come to fruition, but during 1909 the discussion was notably advanced. At the January meeting of the County Council a formal motion was passed calling for a report on the steps taken to combat the ravages of consumption,

and in presenting such report in March, 1909, the Public Health and Housing Committee announced that they were again considering the question of the provision of a sanatorium. The County Architect and Medical Officer were directed to collaborate in the preparation of a scheme on lines which had previously been discussed. One suggestion was that a small permanent sanatorium should be put up capable of being extended in the summer time by a temporary camp, in which extra cases might be received from early June to September. In this way a maximum number of cases could be received with a minimum outlay of time and money,—thus affording the best possible means of giving practical education to sufferers as to the personal conduct likely to benefit themselves and their intimate associates.

Though there are many difficulties to face in establishing a County Sanatorium, and many points of incompleteness in any feasible scheme, it is very desirable that the project should be given practical shape without further delay. Whatever may be said by objectors, it cannot be denied that there is a demand for a County Sanatorium, for this has been urged by numerous Sanitary Authorities, and is repeatedly asked for in the Annual Reports of local medical officers of health.

Dr. Thomas Adam, of the County Health Department, recently brought his mathematical mind to bear on the phthisis mortality statistics of Yorkshire and, as a result of his study of the records, he gave the opinion, in a Paper which he read on the subject, that the further reduction of the phthisis death-rate in the West Riding will demand the application of forces not hitherto extensively employed, viz., sanatorium treatment and possibly notification of phthisis.

Pending the provision of a sanatorium, it must not be supposed that nothing is being done in the West Riding. At no time has there been a deeper realization of the nature of the problem in its various aspects, and there are very few Sanitary Authorities who are not doing something to restrict the spread of tuberculosis. The circular sent out by the County Council in 1907 fully outlined the measures which are available other than Sanatoria treatment, and many of these measures are in operation up and down the Riding; for example, distribution of printed warnings and advice as to the prevention of the disease; disinfection of houses vacated by known sufferers; systematic inspection of dwellings with removal of insanitary conditions; prevention of overcrowding and improvement of ventilation. Several Authorities have made arrangements to receive a few sufferers for open-air treatment or isolation in the spare wards of infectious hospitals, or in temporary annexes in the hospital grounds.

Voluntary notification of Phthisis is encouraged in a good many local areas, but the general opinion is that it is only partially successful, as people hesitate to notify a disease of this kind when the Authority has little more to offer them than advice similar to what they have, in most cases, already received. If facilities for open-air treatment were available, voluntary notification would be more successful.

On the 1st January, 1909, there came into force the "Public Health (Tuberculosis) Regulations," which provide that the local medical officer of health shall be notified of every case of phthisis occurring amongst persons who are under the care of the Poor Law Medical Officers, whether inside or outside the Workhouses. This is clearly an important advance which all Sanitary Authorities should make the most of; for although only one class is brought under notification, it is the class which is perhaps most likely to be neglectful of precautions if not supervised. Furthermore, the Sanitary Authority can well give some attention to the disease among these people without incurring the charge of producing pauperism by placing disabilities on the sufferers.

Housing.—Owing to the eastward extension of coal mining operations, a very considerable activity in house building has commenced, which promises to result in the formation of numerous colliery villages in a part of the Riding, hitherto of a purely agricultural character. At the direction of the Committee, I reported in detail on the sanitary aspects of this development, and the matter is still receiving their serious attention. There are one or two examples of orderly and systematic villages laid out to the best advantage under expert advice, but elsewhere it is to be feared that a great number of houses will be put up with little regard to any system of development, and capable of producing a great deal of trouble to Sanitary Authorities in the future.

It happens that this movement coincides with the passing of the Housing, Town Planning, etc., Act, which was intended to alter the status of the County Authority in the matter of housing. Careful consideration is being given to the subject, and it is hoped that means will be found to ensure that broad sanitary control which is necessary if the future health of these districts is to be protected. Even if the "town planning" provisions are found to be practically inapplicable to the conditions of the West-Riding Administrative area, the new Act makes some very useful alterations of the law relating to the removal and prevention of defects in existing houses. These are discussed later on in this report (see page 52) and it is to be hoped that Sanitary Authorities will avail themselves to the full of their new power to deal with defective and insanitary dwellings.

School Hygiene, Etc.—The County Health Department maintains a close connection with the schools in the Riding, and, indeed, the work done in connection with the health of scholars absorbs a large share of the Department's activities, apart entirely from the statutory medical inspection of school children. The last-named undertaking is, of course, in the hands of the Education Committee, for whom the County Medical Officer acts as School Medical Officer, with a special staff of whole-time medical inspectors. For details of that work during 1909, including the results of over 63,000 medical examinations, reference must be made to the Annual Report of the School Medical Officer.

It is a pleasure to record that the relations between the Central Department, the School Medical Inspectors, and the Local Medical Officers of Health have been throughout the year cordial and mutually helpful. The Government Memorandum, issued in 1909, seems to require the local medical officer of health to refer to the school medical officer on all occasions before moving for the closure of schools or the exclusion of scholars on account of infectious disease. This plan, however, could never be worked in the West Riding Education area, and therefore it is intended to adhere to past practice. The local medical officer of health is recognised as having undiminished powers and responsibilities in regard to the control of infectious disease in schools, and it is the policy of the County Health Department to assist him in every possible way.

During the year many interviews took place with the local medical officers at the schools, and consultations were frequently held as to the course of action required in the face of a threatened epidemic among the scholars. No less than 1428 throat-swabs were collected in the schools and examined in the Public Health Laboratory.

Midwives Act.—The work of supervising the 700 practising midwives was conducted from the County Health Department on customary lines, the women being periodically visited and interrogated as to their method of work. Their books and outfits are examined, and any departures from the Rules of the Central Midwives Board are pointed out and explained. The number of visits so paid during 1909 was 1049, and the letters of caution addressed to midwives reached 98, as compared with 320 in the previous year. This reduction in the number of cases calling for written caution is due to the better understanding of the Rules by the midwives—resulting, to a large extent, from the lectures or “talks” to midwives which were organised at different centres during the year. No less than 398 midwives attended these meetings, where they had the opportunity of putting questions to the Assistant County Medical Officers on any points of doubt or difficulty. The lectures were repeated at 16 centres, and on the average there were 25 women present on each occasion.

A further indication of the growing carefulness of the midwives is found in the fact that there has been a continual increase in the number of occasions on which they deemed it necessary to call in medical aid. There has also been a small but continuous decline in the number of babies who died before receiving the advantage of medical help. These comparisons are apparent from the following table showing the number of notifications received in the County Health Department from practising midwives during the last five years.

	1905.	1906.	1907.	1908.	1909.
Notifications of Sending for Medical Help	158	401	457	582	639
Notifications of Death of Child ...	32	75	67	64	59
Notifications of Death of Mother ...	3	9	12	4	7
Number of Inquests reported ...	11	30	38	35	48
Notifications of Still-Births ...	140	351	373	351	391
Notifications of Puerperal Fever ...	13	43	42	28	36

When it is stated that the number of confinements attended by Midwives during the year amounted to no less than 15,000, it will be seen that the figures in the above table are not by any means excessive.

Death Notifications.—Midwives are only required to send these when death occurs prior to the attendance of a Medical Practitioner, and, as already stated, the table shows a gradual reduction since 1906 in the number of children who died whilst the midwife was in sole charge. As in previous years, the majority of these deaths during 1909 were attributable to prematurity and natural causes, while convulsions and overlying accounted for a good number. Record has been kept of every inquest held, at some of which this department was represented; and in one or two cases the evidence showed that the midwives concerned had not strictly attended to the Rules. Altogether 41 deaths were followed by inquests, and in the remaining cases the Coroner gave his opinion that no public inquiry into the cause of death was necessary. As to the death of seven mothers, each case received special investigation, the County Health Department being represented at the Inquests. “Heart failure” was returned by the Coroner’s Jury as the cause of four of the deaths, whilst the remaining three were attributed to Natural Causes, Hæmorrhage, and Puerperal Fever. In the last-named case, whilst it appeared that medical help had not been called for sufficiently early, it was also shown that the patient had received a concealed injury prior to confinement; and, therefore, no further steps were taken, especially as the Midwife (No. 17613) notified her intention to retire from practice.

Puerperal Fever.—It is satisfactory to note that 24 of the 36 cases recorded above were voluntarily notified by the Midwives in attendance, the remaining 12 coming to the knowledge of the

Health Department by means of the local M.O.H.'s and the Monthly Notification Return. In some of the cases, special visits of inquiry were paid, and the Midwives verbally instructed in the requirements of Rule 5. The other infectious cases were the subject of letters of inquiry and advice, and in no instance was a Midwife permitted to resume practice until thorough disinfection had been carried out to the satisfaction of the Local Supervising Authority.

Infringement of Rules by Midwives.—Instances of serious disregard of the Rules were very few. In 1908 it was found necessary to report some 12 women to the West Riding Sanitary Committee under this head, whereas during the year 1909, only 4 Midwives were reported as having seriously infringed the Rules, viz. :—

9306.	Serious neglect. Infectious case.	Reported to C.M.B.
11010.	Failure to send properly for Medical Aid.	Censured.
10267.	Failure to notify the calling-in of Doctor.	Censured.
20973.	Defective Outfit.	Censured.

The Central Midwives Board duly considered the report of the Local Supervising Authority regarding Midwife 9306, with the result that they decided to cancel her certificate and remove her name from the Roll. Further visits were paid to the other Midwives, who were censured by the Committee, and in each case satisfactory improvement was noted.

Scarcity of Midwives.—The following table shews that the reduction in the number of practising midwives has been going on continuously, and although there were 22 new accessions in 1909, there was a net decrease of about 40 on the year.

	1906.	1907.	1908.	1909.	1910.
Number of Midwives who gave formal notice of their intention to practise	848	788	757	717	676
Number of Midwives on Medical Officer's Visiting List	838	811	792	743	700
Number of reported Deaths of Midwives	13	17	20	11	?

The County Education Committee again issued four Scholarships to assist suitable women in training for the qualifying examination, and three of these Scholarship holders duly passed and became enrolled. The Public Health and Housing Committee felt that this rate of addition does not meet the requirements of the case, and they expressed the view that the County Council

should be empowered to expend money, apart from Education Funds, in the training of Midwives. This power is contemplated in the Midwives Bill, which is now before Parliament.

Another West Riding recommendation was designed to permit the practice of uncertified women in Rural Districts where the literal enforcement of the law would cause hardship. On this point the Privy Council have sanctioned a new Rule, which permits the enrolment of a number of suitable women without examination. The Rule, which only operates till the 30th September, 1910, reads as follows:—

“A candidate who has failed to claim to be certified under the Midwives Act within the time limited by Section 2 of the Act, and who satisfies the Central Midwives Board that, but for her failure so to claim, she would have been entitled to be certified under the Act, may be admitted by the Central Midwives Board to the Roll of Midwives upon such conditions as the Central Midwives Board shall think fit, and shall receive a Certificate in the form set out in the Schedule, and her name shall be entered by the Secretary on the Roll of Midwives. (Schedule, Form 2B.) Provided always that no such candidate shall be admitted to the Roll of Midwives after September 30, 1910.”

At the time of writing, some 46 West Riding women have applied for enrolment under the above terms, and 17 have already had certificates granted, others being under consideration. Only one or two of the applications have come from places where there are no midwives, and it is now clear that when the lists close on the 30th September, there will be many hamlets and villages without a certified midwife within reach. Fortunately the West Riding Nursing Association is now in existence and prepared to make provision for these cases upon suitable local effort being made.

The Midwives Bill, 1910, at present before Parliament, proposes to make various amendments as to the constitution of the Central Midwives Board, the powers of the Board, and further regulations as to the duties of Midwives. But this is a matter which really belongs to the next Annual Report, when it will receive attention.

Sale of Food and Drugs Acts.—The work attached to this branch of the department has been carried on systematically throughout the year. Of the total number of samples analysed (2739) the County Council's Inspectors submitted 2,276, or 83 per cent.; whilst the Local Authorities accounted for 463, or 17 per cent. Included in the latter figure are 317 samples of milk taken by 28 local Sanitary Inspectors, under the arrangement whereby the cost of analysis is borne by the County Council. No private purchasers availed themselves of the services of the Public Analyst during 1909.

QUARTERLY RECORD OF SAMPLES TAKEN DURING 1909.

		SAMPLES ANALYSED DURING 1909.				
DISTRICT.	INSPECTOR.	First Quarter.	Second Quarter	Third Quarter.	Fourth Quarter.	TOTAL.
Barnsley ...	J. H. Bundy ...	50	53	47	53	203
Central ...	F. S. Turner ...	56	51	45	70	222
Harrogate ...	H. Gamble ...	75	64	60	72	271
Mirfield ..	H. Newbould ...	56	60	64	55	235
Pontefract ...	H. F. Wilkinson ...	42	46	48	55	191
Rotherham ...	J. Wilson ...	105	83	76	97	361
Shipley ...	J. Duce ..	66	40	63	64	233
Skipton ...	A. Randerson ...	78	79	77	82	316
Sowerby ...	E. Bell ...	69	62	55	58	244
Total Samples taken by County Inspectors ...		597	538	535	606	2276
Local Authorities ...	...	53	145	136	129	463
Private Purchasers ...	...	—	—	—	—	—
Total Samples Analysed ...		650	683	671	735	2739

The Public Analyst's reports to the Council give details as to the nature of the articles analysed and the action taken regarding those found to be adulterated. The latter class comprised 102 samples, or 3·7 per cent. of the samples submitted. In the following table these figures are compared with those of previous years.

RECORD OF SAMPLES FOR TEN YEARS, 1900-1909.

Year.	Total Samples submitted by			Total Examined.	Total Adulterated.	Percentage Adulterated.
	County Council.	Local Authorities.	Private Purchasers.			
1900	2202	267	2	2471	135	5·5
1901	2247	407	...	2654	193	7·3
1902	2330	343	...	2673	151	5·6
1903	2303	265	...	2568	114	4·4
1904	2310	284	...	2594	81	3·1
1905	2329	342	2	2673	129	4·8
1906	2367	432	2	2801	122	4·3
1907	2294	400	1	2695	105	3·9
1908	2231	489	...	2720	138	5·3
1909	2276	463	...	2739	102	3·7

A separate record has been kept of the 774 milk samples submitted by the County Council Inspectors during 1909, and the results of analysis have been averaged out so as to compare them with the requirements of the Board of Agriculture. Only 24 of these milks, during 1909, were reported to be adulterated, viz., 16 contained added water (some being also partially deprived of fat), and 8 others were reported as being deficient in fat alone. Proceedings were instituted in all suitable cases, and the average fine (including costs) amounted to just over £2 per case. The following table shows the average composition of the milks examined during 1908 and 1909:—

	Total Samples analysed.		Genuine Samples only.		Adulterated Samples only.	
	1908.	1909.	1908.	1909.	1908.	1909.
Percentage of:—						
Total Solids ...	12.65	12.69	12.75	12.74	10.90	11.07
Solids other than						
Fat ...	9.10	9.13	9.16	9.16	8.04	8.23
Fat ...	3.55	3.56	3.59	3.58	2.86	2.84

In May, 1909, the County Councils Association asked each County Council for suggestions to amend the Food and Drugs Acts, the provisions of which are in some respects not sufficiently stringent to check adulteration. The following are the suggestions of the West Riding Committee which, after consideration by the County Councils Association, have been placed before the Government, along with suggestions from other quarters:—

“(1) That power should be given to appoint any person to obtain samples under the Acts (in addition to the persons named in Section 13 of the Sale of Food and Drugs Act, 1875).

“(2) That in order to obtain protection by giving a label with any article sold, it should be provided that the label should not be a defence unless it is on the outer wrapper and contains a clear statement of the ingredients contained in the mixture without any other writing except the name and address of the vendor of the article, or unless the label is in fact brought under the notice of the purchaser.

“(3) That the present Warranty Clauses should be abolished, and in their place it should be provided that a person summoned for an offence should be entitled, upon information duly laid by him, to have any person from whom he purchased the article in question brought before the Court at the time appointed for hearing the charge, and the original seller should only be entitled to acquittal upon proving (a) that he purchased the article from the person brought by him before the Court as the same in nature, substance and quality as that sold by him, and (b) that when he sold the article it was in the same condition as when he purchased it, and that he had no reason to believe that the article was other than described by him. The earlier seller should stand in the

“ same position as the later seller, and should have the same opportunity
 “ of bringing any person before the Court until the original vendor was
 “ reached, but this should not apply to a person resident outside the
 “ United Kingdom.

“ Any seller who could not give the necessary proof as above-men-
 “ tioned should be liable to conviction.

“ That failing the above suggestions in regard to the Warranty Clauses
 “ being carried into effect, the following amendments are desirable.

“ (a) In all cases in which a warranty is relied on as a defence to legal
 “ proceedings under the Sale of Food and Drugs Acts, the pro-
 “ cedure should be amended so as to bring the vendor and all persons who
 “ give warranties in respect of the article sold, before the Court at the
 “ same time.

“ (b) The time for the institution of proceedings for giving a false war-
 “ ranty should be altered so as to enable proceedings to be commenced within
 “ six months from the purchase of the article in respect of which the war-
 “ ranty was given.

“ (c) It should be possible to take proceedings against any warrantor in
 “ respect of a false warranty before a Court having jurisdiction in the place
 “ where the article was purchased.”

PART II.

THE WORK OF THE BACTERIOLOGICAL LABORATORY.

January 1st to December 31st, 1909.

During the year the bacteriological work in the laboratory was principally in the charge of Dr. Thomas Orr. Other Assistants of the County Medical Officer (Dr. Langdon and Dr. Adam) took a share in the work in times of pressure. The two first-named officers have since left the Department, being succeeded by Dr. P. L. Sutherland and Dr. A. Richmond.

In the following table there is represented the number of specimens of various kinds examined in the bacteriological department in the various months of 1909 :—

MONTHLY RECORD OF SPECIMENS EXAMINED.

	Serum Reaction for Enteric Fever.	Sputum for Tubercle Bacilli.	Suspected Diphtheria.	Miscellaneous.	Total.
January ...	55	61	352	104	572
February ...	52	63	416	139	670
March ...	52	77	509	154	792
April ...	40	71	1335	145	1591
May ...	45	80	328	169	622
June ...	31	59	306	162	558
July ...	43	68	287	217	615
August ...	31	68	257	87	443
September ..	77	66	396	212	751
October ...	91	70	403	223	787
November ..	82	69	726	229	1106
December ...	39	73	436	155	703
Total ...	638	825	5751	1996	9210

The next table gives the figures for 1909 in comparison with those for previous years :—

YEARLY RECORD OF SPECIMENS EXAMINED.

Year	Serum Reaction for Enteric Fever	Sputum for Tubercle Bacilli.	Suspected Diphtheria	Miscellaneous	Annual TOTAL.
1904	255	481	1434	64	2234
1905	351	454	2145	53	3003
1906	400	575	3259	408	4642
1907	301	583	3940	1071	5895
1908	581	699	3864	1212	6356
1909	638	825	5751	1996	9210

The continued increase in the number of specimens of every kind is not to be explained by the greater prevalence of disease, but by the rapidly advancing popularity of bacteriological methods of diagnosis. In 1909, also, the work of School Medical Inspection resulted in a considerable increase of specimens submitted for the diagnosis of diphtheria and ringworm.

In preparing previous Annual Reports some pains were taken to collect from the medical practitioners information as to their final diagnosis in cases of suspected diphtheria, enteric fever, or tuberculosis. The opportunity was then obtained of comparing the laboratory diagnosis with the subsequent history of the case, and some very interesting figures were accumulated in this way. The enormous increase of specimens has necessitated the dropping of this system of after-enquiry—not only on account of the clerical work involved but also out of consideration for the medical practitioners who submit specimens in much larger numbers. Therefore, the following notes deal very briefly with the various classes of material examined in the laboratory during the year.

Diphtheria Examinations.—The total number of throat-swabs examined for the diphtheria bacillus was 5751, as compared with 3864 in the previous year. This increase in number was not due to any increase in the prevalence of diphtheria but to a considerable expansion of the system of searching for the bacillus in the throats of all persons who have been in contact with a case. Besides the swabs submitted by medical practitioners and local medical officers of health, there were 467 received from the school medical inspectors of the West Riding Education Committee, and a considerable number from the officials of the Non-County Borough Education Authorities. The Central Staff of the County Health Department also collected 961 swabs in the course of investigations of local outbreaks of sore throat or diphtheria. These investigations were in most cases conducted in company with, or on behalf of, the local medical officer of health. The department is always ready, so far as its resources allow, to afford practical assistance to the local health officer in examining contacts, collecting swabs, and formulating preventive measures. On one occasion during the year a request was received that we should swab the whole of the scholars in a fairly large town with a view to discovering all possible “contacts” or “carriers.” It was impossible to deal at one time with so large an addition to the ordinary work of the laboratory, but arrangements were made to deal with the schools more particularly concerned. In this way, no fewer than 525 swabs were collected, of which 9 were found to contain the diphtheria bacillus. When these 9 infective children were excluded from school, no further trouble ensued. A similar process of routine swabbing was carried through in connection with outbreaks of diphtheria at several other places during the year, and as a rule the measure proved effective in restricting the spread of the disease.

Serum Diagnosis of Enteric Fever.—During the year 638 specimens of blood or serum were received in connection with suspected cases of Enteric Fever. Of these, 223 were reported positive.

There is little of interest to record in connection with this part of the work, except the fact that an increasing use is being made of Widal's reaction for the diagnosis of enteric fever. The ratio of specimens received to cases notified was 1 to 1.2, as against a ratio of 1 to 1.8 in the previous year. The test is also being largely used for the detection of persons who have recently suffered from an unrecognised attack of the disease, and who may be acting as "carriers" or spreaders of infection.

Examinations of Sputum for Tubercle Bacilli.—The specimens of sputum examined for the Bacillus of Tuberculosis numbered 825, of which 284 or 34.4 per cent. were positive. In several of the districts where the voluntary notification of Phthisis is in operation, it is a condition that the patient's sputum be submitted to the laboratory. This, and the coming into force of the Public Health Tuberculosis Regulations, 1909, have doubtless assisted to make the number of specimens examined greater by 131 than was the case in the previous year.

"Miscellaneous" Specimens.—This heading is used for the tabular grouping of 1996 specimens examined during the year and consisting of the following classes:—hairs and scales (ringworm) 1729; milk 69; urine 54; water 27; fæces 10; various specimens in connection with human and bovine Anthrax 17; other pathological and bacteriological specimens 90.

RINGWORM.—Of the 1729 specimens examined, 1018 consisted of hairs sent in by the school medical inspectors in connection with the diagnosis of ringworm among the children met with in their routine school inspections. The County Medical Officer's central staff also submitted 504 specimens from 14 selected schools which have been subjected to periodical inspection for more than 2 years with the sole object of eliminating ringworm. The remaining 207 specimens came from medical practitioners. Of the total examined, 1235 were found to contain the ringworm parasite, and 494 were free.

MILK.—Of the 69 samples received, two were examined with negative results in connection with outbreaks of enteric fever. The remainder (67) were submitted by Local Sanitary Authorities for examination as to the presence of the Bacillus of Tuberculosis. In nine instances positive results were obtained, but this large percentage must not be taken as representing the average condition of things in the West Riding, because the samples were to some extent chosen on suspicion. In all cases where the presence of tubercle bacilli was proved, administrative measures were set on foot for dealing with the source of the mischief. The

measures were in some cases ineffectual owing to the fact that mixed milks had been submitted for examination without the precise origin of the supply having been ascertained at the time from the milkseller. Subsequently, when positive results were obtained, the lapse of 3 or 4 weeks had rendered it impossible for the milkseller in one or two cases to say whose milk he was hawking on the day of sampling. In other cases, it turned out to be possible, but not certain, that two or three herds might have contributed to the mixed milk from which the sample was taken, and consequently the tracing of the affected animal became a matter of great difficulty, entailing many more examinations and considerable delay. In these circumstances, the laboratory was compelled to lay down the rule that samples of milk submitted for examination as to tubercle should, as far as possible, be collected only from individual cows selected by a veterinary surgeon acting on behalf of the Local Sanitary Authority.

URINE.—The 54 samples comprised 11 submitted from patients suspected to be affected with tuberculosis of the urinary system, but in every case negative results were obtained. The remaining 43 specimens were sent to be examined for the *Bacillus Typhosus*, and in 6 cases this organism was found. Three of these positive specimens were from one patient, a girl who continued to excrete the bacillus in the urine for six weeks after dismissal from hospital, and who was only recognised as a “carrier” by her having infected her mother, from whose urine the typhoid bacillus was also obtained. The specific organism was also isolated from the fæces of two patients.

WATER.—Two samples were specially sent in to be examined for the typhoid bacillus, but as usual no positive result was obtained. This, of course, does not exonerate the water, as it is most unlikely that the specific organism would persist in the supply long enough to allow of its detection there after cases of illness had been caused. The 21 other samples of water were examined for bacterial evidence of sewage contamination, and the results were communicated to the Authorities concerned, along with the corresponding chemical analyses.

ANTHRAX.—Eleven pathological specimens were submitted from seven patients suspected to be suffering from anthrax, and five of these cases (as follows) were proved to be positive. We are not informed of the subsequent course of the disease, but in most cases the only chance of recovery depends on an early and definite diagnosis.

1. C.H., age 52, male, a rag-grinder, who developed a pustule on his forearm.
2. F. B., female, engaged in a woolsorting factory, developed a pustule on the arm.
3. E. M., age 18, female, worker in a woolsorting factory, presented over the left malar bone a well marked pustule.

4. This was the case of a woman who developed a pustule on the cheek. She worked in a wool-sorting factory.
5. F.W., age 35, male, showed a malignant pustule on the bridge of the nose. He worked at the same mill as No. 4.

Three specimens were submitted from bovine sources, and two of these were found positive. Examination was also made of three pieces of oil-cake such as had been eaten by the affected animals, but in none of these was the bacillus found.

DIARRHOEA INVESTIGATION.—From the beginning of August till the end of October, 22 specimens of fæces were received from cases of epidemic diarrhoea, to determine if there could be found any predominating organism to which an etiological influence could be ascribed. There were also submitted 15 batches of house-flies taken from the houses in which the above cases of diarrhoea occurred, and these were examined for the same organism. The results in both directions were disappointing, as no characteristic organisms were found to be commonly present. This may, however, have been due to the fact that the specimens had necessarily been collected from 12 to 24 hours before being examined.

OTHER MISCELLANEOUS WORK comprised the examination of 90 specimens of various kinds regarding which there is nothing of special interest to record. Occasionally it has been necessary to give a reminder that the laboratory exists solely for public health purposes, and therefore cannot deal with specimens of a purely personal character,—all work being done free of charge. In the Appendix (page 72) will be found the usual table showing the Sanitary Districts from which the 9210 specimens examined during 1909 were received.

PART III.

ABSTRACT OF ANNUAL REPORTS.

At the close of the year 1909, there were in the Administrative County 29 Rural Districts and 133 Urban Districts, including the newly created Urban District of Earby which came into separate existence on the 1st October, 1909. In this report, however, Earby has been retained in the Rural section, but on the other hand, Sandal has been treated as a separate urban district, although it became merged in Wakefield in November, 1909, the number of districts being thus kept at 162 as before.

It has been necessary to make a detailed study of all the reports for 1909, prepared and sent in by the local medical officers of health for these 162 districts. The reports are as various in form and character as are the districts from which they come, but speaking generally they show that the compilers are doing good service in calling attention to the sanitary needs of their respective areas. In a few cases, however, the reports make little reference to work done, and give only a very meagre statement of the year's health-records. One or two reports go to the other extreme and include a good deal of unnecessary detail. It was not until late in June when the last of the reports had arrived that satisfactory progress could be made with the County Abstract.

Population.—The following table gives the total of the Urban and Rural Districts as regards area and population.—

	Estimated population at the middle of 1909	Area in Acres.	Persons per Acre.
Urban Districts (133) ...	1,178,395	368,389	3.20
Rural Districts (29) ...	373,482	1,305,084	0.29
West Riding Administrative County.	1,551,877	1,673,473	0.93

It is not a simple matter to estimate the population of the Riding at this distance from the last census, especially when rapid changes are going on in opposite directions. The figures given above are arrived at after making allowance for known movements, and there is no reason to suppose that they are far wrong. The estimated population works out at 25,000 higher than the previous year's figure, although the excess of births over deaths was only 18,000.

The Mortality Rates for the year 1909.—Of course, if the population were over-estimated, the various death-rates as given in this report would be erroneously low. As a matter of fact, the rates for 1909 are exceptionally low but not necessarily as a result of an overstated estimate of population. There are other reasons for low death-rates, and it is well that due credit should be given to these in studying the following tables:—

(1). A persistently declining birth-rate has now been going on long enough to have changed to some extent the age-constitutions of the population. That is to say, there is to-day a smaller *proportion* of juveniles in our midst, and as it is among children under 5 years of age that nearly one-third of the total deaths occur, it follows that an apparently lower death-rate is the immediate natural consequence of a declining birth-rate. (2). Of the infantile deaths a large proportion is usually caused by diseases which flourish best under certain weather conditions. In 1909 for instance there was no prolonged hot weather and consequently the death-rate from infantile diarrhœa was abnormally low. (3). Last, and let us hope not least, the accumulated results of sanitary education, medical and surgical science, temperance and general education, must be operating powerfully in the direction of longer life and therefore lower rates of mortality. Whilst giving these various arguments their due weight in gauging the vital statistics of the year, it should also be borne in mind that the achievements of public hygiene are not to be expressed in mortality returns alone,—its aim and scope being far greater than the mere prolongation of existence.

WEST RIDING ADMINISTRATIVE COUNTY, 1900-1909.—Annual birth and death rates per thousand of the population (from the County Medical Officer's Annual Abstracts).

	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Birth-rate	28·9	29·5	28·7	28·5	27·7	27·1	27·0	25·8	26·7	25·7
Death-rate	18·3	16·9	15·8	15·6	16·5	15·2	15·4	15·3	15·2	14·4
Infant Mortality† ...	160	157	138	142	147	133	136	130	132	111
Zymotic Death-rate ...	2·17	2·14	1·53	1·49	2·19	1·45	1·93	1·39	1·55	0·95
Small Pox ,,	nil	0·00	0·01	0·03	0·12	0·02	nil	nil	0·00	nil
Scarlet Fever ,,	0·21	0·14	0·10	0·13	0·14	0·21	0·16	0·07	0·06	0·06
Diphtheria & Croup ...	0·32	0·25	0·17	0·17	0·17	0·17	0·18	0·17	0·15	0·13
Typhus Death-rate ...	nil	0·00	0·00	nil	nil	nil	nil	nil	nil	nil
Enteric Fever ,,	0·19	0·24	0·13	0·14	0·17	0·14	0·11	0·07	0·12	0·10
Continued ,,	0·00	0·00	0·00	0·00	0·00	nil	0·00	nil	nil	nil
Measles ,,	0·54	0·18	0·62	0·20	0·49	0·18	0·35	0·42	0·29	0·22
Whooping Cough ,,	0·23	0·27	0·22	0·32	0·33	0·17	0·23	0·28	0·29	0·18
Diarrhœa ,,	0·67	1·04	0·28	0·50	0·77	0·56	0·90	0·38	0·64	0·26
Respiratory ,,	3·23	2·64	2·83	2·58	2·65	2·57	2·25	2·75	2·37	2·42
Phthisis ,,	1·14	1·00	0·99	1·02	1·01	0·94	0·95	0·98	0·97	0·88

† Deaths under one year per 1000 births.

With one slight exception, every item in the above Table shows a rate for 1909 as low as, or lower than, that of the previous year, and in some instances the rates given in the last column are the lowest ever recorded. This last remark applies to the Birth-rate, the general Death-rate, the deaths from the grouped zymotic diseases, and from diphtheria, diarrhœa and phthisis.

Births.—There were actually fewer births registered in the Administrative County in 1909 than in the previous year. The total number was 39,856, giving a birth-rate of 25.7 per thousand of the population. This rate is the lowest ever recorded, being fully 1.0 per thousand below that of 1908. The rate for England and Wales was 25.6. Some of the local medical officers of health mention this feature with alarm, but, though the continuously declining rate may well call for serious comment, the discussion of the matter would carry us far beyond the scope of a public health report.

There are, however, some aspects of the question which certainly do concern the Sanitary Authorities. For instance, at Dewsbury, where the births were fewer by 33 than in the previous year, Dr. Halliwell writes,—“It has been repeatedly shown that “water from Dewsbury domestic-taps contains lead in dangerous “quantities, and it is well known that this poison causes abortion; “so that it is a fair assumption to make that the birth-rate of “Dewsbury may have been deleteriously affected by the water “consumed.” The same writer says,—“During 1909 there were “42 still-births buried at the Cemetery: this does not include the “early abortions. I think an estimate of 50 of these latter would “be a very low one, probably double the number would be nearer “the mark,—that is to say, from 13 to 27 per cent of what should “be births are lost.” *

It is a fact which has often been pointed out, and which is again apparent on studying column 17 of Table 1 (see end), that the lowest birth-rates occur in the manufacturing districts of the Calder Valley, while the highest rates are found in the mining centres, such as Bolton-on-Deane (47.1), Whitwood (44.8), Wombwell (44.0), Worsborough (43.7), Darton (41.9), Cudworth (41.5) and others.

Still-Births.—Record is made of 464 still-births, but this figure is the product of only a few sanitary districts where the information is available. In most places there is no means of ascertaining the number, although all medical officers are agreed that they should be recorded, as there is reason to think the proportion of still-births is increasing. The midwives of the West Riding notified the occurrence of no less than 391 still-births during 1909.

Deaths.—As already stated, the death-rate of the Administrative County (14.4) was the lowest ever recorded. It represents 22,302 deaths in 1909, as compared with 23,184 in the previous year. In the country as a whole the death rate was 14.5.

The following table shows the principal causes to which the West Riding deaths of 1909 were assigned, and it also divides the deaths into groups according to the ages of the victims.

*Since this was written the Dewsbury and Heckmondwike Water Board have undertaken systematic treatment of the water by the addition of neutralizing agents.

"TABLE IV."

Table showing the causes of deaths in the West Riding Administrative County during the year 1909:—

CAUSES OF DEATH.	AGE AT DEATH.						All ages
	Under 1 Year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	
Smallpox	—	—	—	—	—	—	—
Measles	74	247	25	2	—	—	348
Scarlet Fever	1	41	44	6	4	—	96
Whooping Cough	137	132	7	—	—	—	276
Diphtheria (including Memb. Croup)	7	103	82	3	4	—	199
Croup	3	17	7	—	—	—	27
Typhus Fever	—	—	—	—	—	—	—
Enteric Fever	—	5	18	32	97	1	153
Other Continued Fever	—	—	—	—	—	—	—
Epidemic Influenza	9	7	4	7	112	98	237
Cholera	—	—	—	—	—	—	—
Plague	—	—	—	—	—	—	—
Diarrhœa	297	83	2	—	15	9	406
Enteritis	145	43	4	6	13	11	222
Gastritis	32	6	2	3	8	7	58
Puerperal Fever	—	—	—	12	44	—	56
Erysipelas	15	2	2	1	16	12	48
Phthisis (Pulmonary Tuberculosis)	15	35	64	282	903	66	1365
Other Tuberculous Diseases	196	226	112	78	135	10	757
Cancer, malignant disease	2	1	4	13	743	491	1254
Bronchitis	410	194	23	9	456	864	1956
Pneumonia	370	396	88	77	563	249	1743
Pleurisy	2	4	4	1	26	19	56
Other diseases of Respiratory organs	30	55	15	2	63	32	197
Alcoholism, Cirrhosis of Liver	1	—	—	2	140	27	170
Venereal Diseases	27	4	—	1	9	4	45
Premature Birth	848	2	—	—	—	—	850
Diseases and accidents of parturition	15	—	—	35	108	—	158
Heart Diseases	24	13	58	87	1225	982	2389
Accidents	54	76	54	76	312	69	641
Suicides	—	—	2	25	119	22	168
All other causes	1730	405	218	213	2089	3137	7792
ALL CAUSES	4444	2097	839	973	7204	6110	21667

The total of this table is fewer by 635 than the gross number of deaths given above. This arises from the local medical officers of health excluding from their detailed tables deaths belonging to other districts, which other districts have not always received the excluded deaths into their tables.

For an analysis of the deaths according to locality, reference must be made to Tables I and II folded at the end of this report. It will there be seen that there is great variation in the local death-rates, but direct comparisons are only to be made with local knowledge. For example, the high death-rates of places like Whitwood and Methley are to some extent explained by the prevailing high birth-rates and consequently large proportion of infants in the population. On the other hand, some of the very low death rates are probably capable of the converse explanation,—that is to say, the low birth-rate during recent years has reduced the proportion of infants. In another class it seems likely that the declining birth-rate has gone on long enough to bring about a secondary effect, namely, an increased death-rate due to the unusual proportion of inhabitants in the later stages of life. Something of this kind may be operating for instance at Denholme, Meltham and Mytholmroyd, where in 1909 the deaths exceeded the births.

Urban and Rural Districts.—The next table compares the vital statistics of the Urban and Rural Districts, as in former reports. It will be seen that the Rural Districts maintain their superiority except, curiously enough, in regard to zymotic death-rate. This excessive rate in the Rural Districts is to be explained by the prevalence chiefly of measles among the dense coal-mining populations that are now invading the Rural Districts.

	Annual Rates per 1,000 of the Estimated Population					Infant Mortality (Deaths under one year per 1,000 Births)
	Birth-rate	Death rate	Zymotic Death-rate	Phthisis Death-rate	Respiratory Death-rate	
(1) Urban Districts (133) in the West Riding	25·3	14·2†	0·92	0·93	2·48	114
(2) Rural Districts (29) in the West Riding	27·3	13·4†	1·06	0·72	2·26	104
(3) West Riding Administrative County	25·7	14·4	0·95	0·88	2·42	111

†Excluding Asylum Deaths.

Infant Mortality.—It has come to be the practice of all medical officers of health to state the number of deaths of persons under one year of age in relation to the number of births, and to concentrate on this figure a large amount of attention, with the

object of finding where and how it can be lessened in the future. In the West Riding Administrative County during 1909, there were 111 such deaths of babies to every thousand births, while in the previous year the ratio was 132 per 1,000. This reduction means a saving in one year of no less than 837 children, and there can be no doubt that many of these will grow up to vigorous maturity, for it is not until advanced old age that the dangers to life are so great as during the first year.

Table V represents a large amount of statistical work. It shows the approximate age in weeks or months of the 4,444 babies who died during 1909, and at the same time indicates the cause of death. These causes of death are summarised and compared with the previous year's figures in the small preliminary tables immediately following:—

Grouped Causes of Infant Deaths.	No. of Deaths.		Ratio per 1,000 Births.	
	1908.	1909.	1908.	1909.
Wasting diseases	1874	1777	46·1	44·6
Diarrhœal diseases	951	499	23·4	12·5
Convulsions	534	452	13·1	11·3
Bronchitis	528	410	13·0	10·3
Pneumonia	433	370	10·6	9·3
Common Infectious diseases ...	351	221	8·6	5·6
Tuberculous diseases	179	219	4·4	5·5
Other causes	523	496	12·8	12·4
Total deaths under 1 year of age	5373	4444	132·0	111·5

It will be seen that the greatest saving occurred under the head of "diarrhœal diseases," in the propagation of which climatic conditions play an important part. But there has also been a diminution under some of the other heads, and it is fair to conclude that the Infant Mortality of 1909 has been lowered in some measure by the efforts of the many sanitary reformers who are at work on this subject. Deaths from tuberculous disease among infants were unfortunately more numerous, and there was no appreciable reduction in the figures entered under "Wasting Diseases." In this connection, the next table, compared with the one for the previous year, shows that the diminished rate of infant mortality in 1909 did not commence until after the first week of life.

Age Distribution of Infant Deaths.	No. of Deaths.		Ratio per 1,000 Births.	
	1908.	1909.	1908.	1909.
Under 1 week ...	1116	1092	27·4	27·4
1 to 2 weeks ...	256	208	6·3	5·2
2 to 3 „ ...	252	206	6·2	5·2
3 to 4 „ ...	165	176	4·1	4·4
Total under 1 month ...	1789	1682	44·0	42·2
1 to 2 months ...	555	426	13·6	10·7
2 to 3 „ ...	429	340	10·5	8·5
Total under 3 months...	2773	2448	68·1	61·4
3 to 6 months ...	1078	759	26·5	19·0
6 to 9 „ ...	796	656	19·6	16·5
9 to 12 „ ...	726	581	17·8	14·6
	5373	4444	132·0	111·5

It will be seen from the last column the reduction of infant mortality has been greatest between the ages of one month and seven months, and there is no doubt that it is here that the efforts of the health visitor have most chance of success.

In the last column of Table I (see end) there is shown the rate of Infant Mortality in every district of the Riding, and among them will be found some that are very much in excess of the ratio for the Riding as a whole. The Sanitary Authorities of these places should apply themselves vigorously to the problem of reducing these excessively high and largely avoidable figures. The various lines of action for this purpose have been set out in previous issues of this report and in the reports of the local medical officers of health year by year. They include as a basis the elementary principles of public sanitation, with clean, airy dwellings, impervious backyard surfaces, well-drained and scavenged. Added to this is a requirement which is being gradually, but surely, met, namely, the education of mothers in the hygienic care of infants.

In 18 of the reports it is mentioned that there is an organised effort to assist mothers by voluntary visitors, who distribute advice on the feeding and management of infants. In six other districts the work is systematically undertaken by Health Visitors appointed by the Sanitary Authority, and in 7 other districts similar work is undertaken by the District Nursing Association or Guild. There continues to be a steady demand for the pamphlet drawn up in the County Health Department on “How to take Care of the Baby.” It is supplied free of charge to midwives and others.

TABLE V. WEST RIDING ADMINISTRATIVE COUNTY.
INFANTILE MORTALITY DURING THE YEAR 1909.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
i. Common Infectious Diseases.	Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	2
	Measles ...	...	...	...	...	...	...	1	1	1	3	8	8	11	16	15	10	74
	Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
	Diphtheria (including Membranous Croup) }	...	...	...	1	1	...	...	...	...	...	2	...	...	3	1	...	7
	Whooping Cough ...	...	...	...	1	1	11	19	8	11	13	12	16	9	9	20	8	137
	Total ...	...	...	...	2	2	11	20	9	12	16	22	24	21	29	37	18	221
ii. Diarrhœal Diseases.	Diarrhœa, all forms... }	1	1	3	3	8	26	29	37	41	22	33	18	24	25	15	19	297
	Enteritis, Muco-enter- itis, Gastro-enteritis }	1	1	3	7	12	23	12	13	9	11	9	11	20	5	9	11	145
	Gastritis, Gastro- * intestinal Catarrh }	1	2	5	4	12	10	9	5	6	4	1	4	2	...	2	2	57*
	Total ...	3	4	11	14	32	59	50	55	56	37	43	33	46	30	26	32	499.
	Premature Birth ...	598	77	63	45	783	42	11	5	3	1	...	...	2	...	...	1	848
iii. Wasting Diseases.	Congenital Defects ...	137	32	22	8	199	20	14	10	7	...	4	3	3	2	1	2	265
	Injury at Birth ...	40	2	1	...	43	...	...	...	...	...	...	...	1	...	...	...	44
	Want of Breast-milk, Starvation }	9	4	6	1	20	11	6	2	4	2	1	1	...	1	...	...	48
	Atrophy, Debility, } Marasmus }	117	33	34	39	223	100	74	49	22	27	22	13	12	18	7	5	572
	Total ...	901	148	126	93	1268	173	105	66	36	30	27	17	18	21	8	8	1777
	Tuberculous Mening- itis }	...	...	...	1	1	...	2	2	6	10	8	10	10	12	9	6	76
	Tuberculous Periton- itis: Tabes Mesen- terica }	...	...	...	...	...	5	11	12	8	10	8	1	4	7	6	3	75
iv. Tuberculous Diseases.	Other Tuberculous Diseases }	1	1	...	1	3	1	9	5	10	5	7	5	4	5	7	7	68
	Total ...	1	1	...	2	4	6	22	19	24	25	23	16	18	24	22	16	219
	Erysipelas ...	1	1	...	1	3	1	4	3	...	1	...	...	1	...	...	2	15
	Syphilis ...	...	...	2	4	6	12	6	4	2	...	1	3	...	2	...	...	36
v. Other Causes.	Rickets ...	...	...	...	...	...	...	...	3	...	2	4	4	3	4	2	2	24
	Meningitis (not Tuberculous) }	1	1	3	1	6	3	3	8	13	10	10	5	7	9	1	3	81
	Convulsions ...	105	27	28	24	184	59	27	26	23	19	23	21	16	16	15	23	452
	Bronchitis ...	3	6	10	13	32	55	58	41	31	37	22	31	35	33	15	20	410
	Laryngitis ...	...	...	1	...	1	1	...	...	...	...	...	1	1	...	...	...	4
	Pneumonia ...	2	2	1	5	10	19	23	25	38	30	38	44	27	42	36	38	370
	Suffocation, overlying	8	2	3	4	17	4	5	6	2	2	1	1	1	...	...	1	40
	Other Causes ...	67	16	21	13	117	23	17	17	18	13	18	14	16	16	14	13	296
	Total ...	187	55	69	65	376	177	143	133	127	114	117	124	107	122	86	102	1728
Grand Total for Administrative County		1092	208	206	176	1682	426	340	282	255	222	232	214	210	226	179	176	4444

*The total given for Gastritis (57 deaths) is in excess of the corresponding figure given in Table IV., page 23, the reason being that in the latter table some of the Gastritis deaths have been placed among "Other Causes" by medical officers who have not fully appreciated the recent change in the Tables.

The Notification of Births Act, 1907, has been adopted in 7 districts, and is under consideration in 9 other districts. The adoption of this Act by the Sanitary Authority makes it compulsory on parents, doctors, or midwives to notify every birth to the local medical officer of health within 36 hours.

A very large part of the Reports for 1909 is devoted to the discussion of the perennial question of infant mortality, and, although the subject has been so very generally thrashed out, it may be useful to give a few extracts here, as showing what a lot of lee-way remains to be made, and also what results are being obtained in some districts.

Swinton.—"It must not be forgotten that the miseries of
 "the babies and households are much increased by overcrowding
 "in houses, by insanitary surroundings, more especially privy-
 "middens, unpaved yards, and general heedlessness to sanitary
 "laws; also through a state of unpreparedness for cold wet
 "springs and hot dry summers. It is only by constantly fight-
 "ing against these evils that the infantile death-rate will be
 "reduced to 100 per 1,000 births." *Featherstone*.—"The soil,
 "overcrowding and infant mortality; these may be fittingly
 "placed together, although at first sight having no connec-
 "tion." *Dewsbury*.—"Ignorance and carelessness with respect to
 "feeding is still too prevalent; cases of children fed on unsuit-
 "able food and from dirty bottles being met with, these, too,
 "in spite of frequent warnings by the Town's Matron. In one
 "instance, an inquest was held upon a child which had died from
 "convulsions; post-mortem examination showed that boiled
 "bread had been given, but those in charge of the baby denied
 "all knowledge of such at the inquest. Many other cases of
 "carelessness and neglect could be cited." *Horsforth*.—"The
 "many patent baby foods on the market are one of the curses of
 "the country, and I should like to see measures taken which
 "would render it impossible for unsuitable starchy foods to be
 "offered for sale." *Ossett*.—"On one cold November night
 "after 11 o'clock in a distance of little over 200 yards, I met no
 "fewer than eleven persons carrying babies."

In Barnsley, where they have the advantage of a Corporation Health Visitor, Dr. Sadler thinks "there is some evidence
 "that the improper feeding of infants is diminishing." At Wakefield also, Dr. Gibson says with regard to infant mortality :
 "I am quite certain that it would not have been lowered to any-
 "thing like the marked extent it has if health visiting had not
 "been instituted." Dr. Scatterty mentions a new departure at Keighley : "Rooms in a central position have been supplied and
 "furnished by the Health Committee, where the Members of the
 "Infant Aid Society, assisted by the Lady Health Visitor, will
 "receive mothers and talk to them on matters specially con-
 "nected with the well-being of their babies, and in many other
 "ways show their practical sympathy both with mothers and
 "infants."

Several of the reports refer to the question of teaching baby-hygiene to the older girls in the elementary schools. At Dewsbury, where such teaching is in vogue, Dr. Halliwell says: "Some essays written by the girls show considerable knowledge and common sense." Dr. Percival mentions that two of the Knottingley Head Teachers, "who have attended the classes on hygiene for Teachers at Wakefield, give an hour-and-a-half's instruction per week to the girls attending Standard V., VI., and VII., on various hygienic subjects, viz., Food, Clothing, Household Management, Ventilation, Warming, Drainage, etc."

Dr. Johnson, in the Normanton report, writes: "I am of opinion, taking into account the early age at which girls hereabouts marry, it would be expedient on the part of the County Council to appoint special teachers to train girls in the last six months of their school career in the art of feeding, clothing and rearing infants. The helplessness of the average girl-wife in the management and care of the off-spring is frequently pathetic, and if instruction had been given a few years earlier she would have every confidence in herself and not appeal to the oldest female inhabitant." At Knottingley, "a course of Health Lectures, under the auspices of the County Council, was given, but they were not attended by as many of the working class mothers as one would have wished."

Zymotic Diseases.—Before proceeding to discuss separately the seven principal infectious diseases, one may here compare them in a single table, from which it will be seen that, as usual, the notifiable diseases are far less fruitful causes of death than the "minor ailments" of diarrhœa, measles and whooping cough.

Zymotic Disease.	No. of Cases 1909.	No. of Deaths 1909.	Ratio of Deaths.	
			<i>a</i> per 1000 persons attacked.	<i>b</i> per 1000 persons living
(1) Small Pox ...	1	—	—	—
(2) Scarlet Fever ...	5199	96	18·5	0·06
(3) Diphtheria and Mem- branous Croup ...	1644	199	121·0	0·13
(4) Typhus, Enteric and Continued Fevers	792	153	193·2	0·10
(5) Measles ...	Not notified	348	?	0·22
(6) Whooping Cough ...	"	276	?	0·18
(7) Diarrhœa ...	"	406	?	0·26
Total of Chief Zymotic Diseases ...	?	1478	?	0·95

In column 19 of Table 1 (see end) there is worked out the zymotic death-rate of every district in the Riding, and some of these are found to be two or three times as great as the average rate. If we take the trouble to analyse the zymotic death-rate in those districts where it is notably high, we find that we are really dealing with a phase of the infant mortality question; for in nearly all these cases it appears that the district is one with high birth-rate and a large child-population exposed to the ravages of diarrhœa, measles, and whooping cough. For example:—

District.	Zymotic Death-rate.	District.	Zymotic Death-rate.
Barnsley Rural	... 3.9	Darton	... 2.4
Whitwood	... 3.7	Stocksbridge	... 2.4
Bolton-on-Dearne	... 3.4	Featherstone	... 2.2
Castleford	... 2.9	Pontefract	... 2.1
Cudworth	... 2.5		

With the exception of some scarlet fever at Bolton-on-Dearne and enteric fever at Cudworth, Featherstone, and Pontefract, the above high rates are almost entirely attributable to the infantile ailments of measles, whooping cough, and diarrhœa.

Small Pox.—Only one case was notified in the Administrative County during the year 1909, and this occurred at Soothill Nether in the month of May. The patient was isolated in hospital, and the inmates of the infected house were placed under observation for a fortnight after submitting to vaccination. The origin of the case was not known.

Although only one medical officer of health came to close quarters with small-pox during 1909, the reports contain many important references to this disease, mostly in the shape of warnings as to what may be expected when next small-pox assumes epidemic prevalence in the County. Very little study of past records is sufficient to justify the expectation that before very long another general invasion will take place, and those who will have to cope with the spread of the disease are surely entitled to be heard on the matter.

Dr. F. J. Burman repeats his warning that the small-pox hospital at Hoover, belonging to the Wath, Swinton and District Joint Hospital Board, “is far too small to cope with anything like an outbreak such as may be expected of this awful disease, and it is high time that the Conjoint Hospital Board began to

“put its house in order by enlarging it.” Along with many other observers, Dr. Burman points out that the present neglect of vaccination provides a much more susceptible population. Dr. Sutherland, of Cleckheaton, says: “I have seen too much of “small-pox, and know too well the preventative value of vaccination to have any sympathy with those who openly encourage “the rapid growth of a population that must at no distant date “offer itself a ready victim to small-pox.” At Mexborough, “out of 484 births, only 116 have been successfully vaccinated”; whilst at Goole Dr. Erskine mentions that many of those vaccinated have only received one mark.

The authentic Vaccination Statistics for the country are not yet published for the period following the operation of the last Vaccination Act, but it is clear that there has been an enormous increase of “exemptions.”

Scarlet Fever.—For the third year in succession the prevalence of this disease was notably low, as will be seen from the following review of six years’ notifications:—

Year.	Cases of Scarlet Fever.	Year.	Cases of Scarlet Fever.
1904	5849	1907	4261
1905	7556	1908	4125
1906	6530	1909	5199

In the year 1909 the disease was of mild type so that only 1 in every 54 cases proved fatal. The monthly total of notified cases showed very little variation throughout the year, although there were individual districts where the disease assumed epidemic proportions for a time. The highest attack-rates were naturally experienced in those modern industrial and mining centres where there is a large juvenile population on a relatively small area, as at Barnoldswick, Bolton-on-Dearne, Methley, Oakworth, Sowerby Bridge, Swinton, Wath-upon-Dearne. The restriction of scarlet fever when epidemic prevalence is threatened in places of this character, becomes one of the most worrying tasks of the Sanitary Authority and the Education Authority. No great reliance can be placed on the sanitary state of the district, or on the readiness of hospital accommodation when, as in 1909, the disease is of so mild a type that some sufferers escape detection until they have practically recovered from the disease. There is a great consensus of opinion that direct contact is the principal mode of transmission in scarlet fever, as the following extracts will show:—

Oakworth.—“In my opinion the continued spread of the “infection is due to personal contact, probably handed on by “very mild and unrecognised cases; the families affected being “associated by proximity of dwelling, the actual channel of con-

“tact being generally impossible to trace. This applies to Stanbury and Lumbfoot. The Laycock group occurred all at one time, were associated by close proximity, and the first case was not recognised until it had reached the peeling stage.” *Castleford*.—“Unfortunately several children had been going to school and playing with other children whilst suffering from a mild attack of the disease, and which were only found out when peeling had commenced.” *Tadcaster R.*—“An outbreak occurred at Swillington Common in September. One child had attended school regularly until the mother noticed her to be peeling, when a doctor was called in and reported it as scarlet fever. On the 24th I examined a number of children at the school. One was peeling freely, and had no doubt had the complaint although she had attended school regularly.”

In the Hunslet Rural District, Dr. Buck thinks that school influence was not so much to blame as the carelessness of parents, and at Mexborough Dr. Huey thinks “it would be really desirable in some cases to institute proceedings and make an example.” Dr. Scatterty, of Keighley, writes: “The probability is that personal infection from known or mild undetected cases is the most fertile source, and, although it is only supposition as yet, there are most likely ‘carrier’ cases analogous to diphtheria carriers, who are capable of carrying infection to others, though not exhibiting any of the symptoms of the disease themselves.”

On the question of hospital isolation, the reports generally are in favour of that measure, and there are several interesting comparisons made between home-isolation and hospital isolation in scarlet fever. Dr. Burman, of Wath, mentions that when he ceased removing cases to the hospital, the notifications “jumped up at once from 12 to 30 a month.” Dr. Lownds, for the Great Ouseburn Rural District, writes: “I am certain that we are now finding the benefit of the Isolation Hospital.” At Keighley, of the 18 cases treated at home, one died and two “return” cases occurred, whereas of the 142 cases removed to hospital, two died and there were three return cases. At Swinton, owing to the hospital becoming overcrowded, its use in staying the epidemic was disappointing after the first few months, and Dr. English mentions that several cases became complicated with ear and nose discharges. The same writer has noticed the effect of overcrowding in cases treated at home, and observes, “during the warm months when children are living out of doors, there has been less fever, but at and after Christmas Holidays, Whitsuntide, and whenever there is an influx of persons, especially children, into houses, then the rapid rise in cases has occurred; again, usually, if cases do badly, and get nasal and ear discharges, we frequently find the insanitary condition is overcrowding. On the other hand, when the family consists of parents and one child, and that child is treated at home, all goes on well.”

Dr. Sadler, in his report on the Barnsley Rural District, justifies the hospital as having postponed the age at which children take scarlet fever, and as having saved a number of lives, and this, he thinks, is worth all the money expended. In Skipton, Dr. Atkinson had reason to think that the cause of the spread of scarlet fever was connected with visiting at the hospital, and when this was stopped, the cases rapidly diminished. Dr. Storr mentions an outbreak of 14 cases in the Halifax Rural District, which started with a child who went to no school, and who apparently had no other chance of infection than that afforded by participating in the scraping of the paper from the walls of the living-room, where some years previously a case of scarlet fever had occurred. Dr. Storr adds: "If there be any justification in this theory, no wonder that scarlet fever is nearly always prevalent."

Diphtheria.—This disease was with us all the year, and, although localized epidemics occurred from time to time, the gross number of cases for the year remained at about the same figure as in previous years. This constancy in the annual number of cases, coupled with a decline in the number of deaths, was commented on in last year's report. The figures for 1909 were 1644 cases and 199 deaths, as compared with 1687 cases and 223 deaths in 1908. More than one-half of the deaths occurred in children aged between 1 and 5 years, and it is partly on this account that many observers are in favour of postponing the start of school-life to the age of 5 or 6 years, seeing that the school is so often the place where infected and uninfected children come into close contact. During 1909 a large amount of effort was directed to the elimination of diphtheria cases from school, and it was seldom that school closure was resorted to on this account; the preferable plan being to examine all throats and exclude individual children. In this work the Bacteriological Laboratory did useful service, and the staff of the Health Department collected and examined over 1400 swabs from scholars. The reports contain many fervent expressions of thanks for the assistance thus given by the County Authority.

In Table III., Col. 6 (see end), will be found the number of cases notified in every district of the Riding. It is needless to individualise here as regards the course of the various local epidemics, but perhaps it may be useful to look at a few of the observations contained in the reports under review. First of all, it is noticeable that there is very little attempt nowadays to connect diphtheria directly with insanitary conditions at the house of the sufferers, but rather to ascribe each case to direct contact with an infected person, either in the shape of a sufferer or a "carrier," *i.e.*, one who, though not actually ill, is harbouring the specific germs in his or her throat.

Dr. Erskine, of Goole, asserts that "the scientific control of diphtheria depends on the thoroughness with which you are

“able to deal with the contacts.” He recounts the steps taken to eliminate the disease from a certain school where it had been a constant source of worry, thus: “With the help of the County officials 525 swabs were taken, *i.e.*, all the children attending the school had their throats swabbed and bacteriologically examined. This was begun on Thursday afternoon in the infants’ department, and continued on the Friday until the whole school was gone through. Each child was sent home as soon as the throat was swabbed. On Sunday the result was telephoned from Wakefield that 9 children out of the total number harboured the specific disease germs in their throats, and so were the means of continuing and conveying the disease to others.” These particular children were, of course, excluded, and Dr. Erskine adds: “the result was that right up to the end of the year that school gave us no further trouble.”

Out of his Hebden Bridge experience, Dr. Lawson writes: “I have no hesitation in attributing the prevalence and continuance of this disorder to personal contact, the large number of children treated at home, where satisfactory and proper isolation can be rarely attained, their short illness, quick convalescence, and immediate free communication both at school and elsewhere, before the disease germs are destroyed in throat and nasal passages.” Dr. Stedman gives an illustration of the risks associated with returning absentees: “On October 26th I visited Drax School, and was informed that a boy had been absent a week on account of a sore throat. I saw the boy, who intended starting school the following day. A swab proved the case to be diphtheria, and the lad was removed to hospital.”

Most of the fatal cases were those in which the diagnosis of the disease had been delayed until it was too late for anti-toxin treatment to be of any effect. Dr. Martin, of Brighouse, asks that the attention of parents be called to the necessity of seeking early medical advice for all conditions of throat ailments in little children for, he adds, “it is an undoubted fact that treatment in diphtheria infection, to be generally successful, must be taken in very good time.” Dr. Milne, of Mirfield, says: “It is hardly fair to expect doctors to inject eleven shillings’ worth of anti-toxin into a patient, when it is well known that the parents will never be able to pay for it. Yet, the earlier anti-toxin is administered, the better chance has the patient of recovery.” Many of the Authorities undertake to pay for anti-toxin in all cases where the County Health Laboratory finds diphtheria bacilli in swabs from the throat, but even this delay is undesirable, if the best results are to be obtained.

Before leaving the subject of transmission of diphtheria, some remarks of Dr. Milne, of Mirfield, are worthy of mention. He says: “I am inclined to think that the Huddersfield Sewage

“ Works, and the plague of flies during the summer, were pre-
 “ disposing causes of the recent outbreak. The odours from the
 “ sewage works, especially during the hot months of July and
 “ August, were frequently very offensive, and many people have
 “ complained bitterly, and said it was impossible at times to
 “ open either doors or windows.” Dr. Percival, of Knottingley,
 records the occurrence of a severe case of diphtheria in a house
 close to the public night soil tip, while Dr. Chrispin, of Castle-
 ford, found reasons to connect a case with the prior fatal illness
 of a cat.

The question of hospital isolation for diphtheria patients is
 referred to under another heading. Of the total number of
 notified cases, 789 or 48 per cent. were so isolated during 1909,
 as compared with 42 per cent. in the previous year. This would
 help to explain the lowered mortality. Dr. Scatterty, of
 Keighley, writes: “ Apart altogether from the question of isola-
 “ tion, the following statement of fact should justify the removal
 “ to hospital,—Of the 45 cases in hospital, 3 were fatal, *i.e.*, 6.6
 “ per cent. Of the 10 cases treated at home, 4 were fatal, *i.e.*, 40
 “ per cent.”

Enteric Fever.—This disease was less prevalent during 1909
 than in any previous year, with the exception of 1907. Never-
 theless, there is scarcely ground for congratulation when we
 realize that 153 deaths were caused, and that these were chiefly
 among adults. As usual, the greatest incidence occurred in the
 mining communities, where there are often conditions favourable
 to the spread of enteric fever when once introduced. Contamina-
 tion of the domestic food and milk store by flies or dust, is
 mentioned as being probably the chief means of spreading the
 infection in districts where unpaved yards, privy-middens, and
 bad scavenging arrangements prevail. In other districts there
 have been instances of what was probably water-borne typhoid,
 as in the Todmorden Rural District (1 case) and the Tadcaster
 Rural District. Dr. Stedman mentions that South Milford in the
 latter district, has much more than its share of enteric fever, and
 in certain cases the water supply was shown to be contaminated.
 A more serious outbreak (15 cases) occurred at Zion Hill, Kirk-
 burton, in February and March, a polluted well being assigned
 as the cause. Needless to say, the well was promptly con-
 demned, and the public supply laid on.

In the Keighley report, Dr. Scatterty ascribes 9 or 10 cases
 to contaminated milk, and he also mentions water-cress and
 shell-fish as being probably concerned with one or two cases.
 Dr. Wiltshire observes, in the Hemsworth Report, “ It is very
 “ difficult in a district of this character to trace the origin of
 “ infected shell-fish, and it would be well if some national system
 “ of control could be instituted with regard to the collection and
 “ distribution of mussels.”

At Cudworth, 22 cases of enteric fever were notified in a population of some 6,000 persons, while at Featherstone the attack-rate was over 2 per 1,000, and Dr. Buncle mentions that epidemics of this kind occur annually in the last-named district. There are many instances of the disease spreading by personal contact among the members of a household, and Dr. English asserts that in districts like Swinton, "hospital nursing and "isolation is usually more urgent in cases of typhoid than in any "other infectious disease." Out of the 789 notified cases, 530 or 67.2 per cent. were removed to hospital, as compared with 65 per cent. in the previous year.

At Doncaster a single case of Typhus fever (doubtful) was notified.

Diarrhœa.—There were fewer deaths from this disease during 1909 than in any year since 1894. The average number of diarrhœal deaths in the Administrative County is about 1,000 a year, but in 1909 the number was only 406, and, as already mentioned, this reduction is in a great measure responsible for our lowered rate of infantile mortality.

There is no doubt that we have to thank the comparative coldness of the summer for preventing a much more pronounced prevalence of that very fatal disease known as epidemic diarrhœa or "summer diarrhœa." The manner in which the weather affects the distribution is best explained by assuming that the specific germ is conveyed to the human food supply by flies, which have their breeding places in manure heaps, middens, and similar accumulations of decaying matter. A hot summer directly encourages and expedites the multiplication of flies in these places, and so enormously increases their power of spreading infection. At the same time putrefactive changes go on much more rapidly in hot weather, and infective material in the form of dust is available in greater quantity in the vicinity of habitations and to the danger of the domestic food supply. Finally, when milk, for example, receives contamination in hot weather, the bacteria multiply therein with greater certainty and rapidity, thus probably increasing the dose of infection for the consumer. The public mind is now being generally directed to this chain of sequence, and the result is seen in the present campaign against the housefly. In one town recently, an enthusiastic sanitarian offered a price for the dead bodies of flies, but a far more effectual plan is to wipe out their breeding places in the neighbourhood of houses. This would entail the abolition of privy middens in many places, and the institution of systematic scavenging at regular intervals in all urban centres, as well as the prompt removal of stable manure and similar material.

Though the summer of 1909 was relatively cold and wet, there was a very considerable sacrifice of infant life by reason of the excessive prevalence of diarrhœa in several districts, as may

be seen by noting the deaths in column 14 of Table II. (see end). The lessons above referred to might well be considered in such districts as Castleford and Whitwood and in certain parts of the Doncaster Rural District, where infantile diarrhœa was particularly fatal. In the Castleford report, Dr. Chrispin says: "I find there are more cases of diarrhœa in houses that are in close proximity to privy middens and ashpits than in those where there is water-closet accommodation." Dr. Sadler shows by statistics that in a certain area of Barnsley having a privy-midden system, there have been in 13 years nearly 500 diarrhœa deaths over and above what might have been expected if water-closets had been in vogue there.

Measles.—Second only to Diarrhœa, measles contributed 0.22 to the zymotic death-rate, representing 348 fatal cases during the year. Only 27 of these deaths occurred in children over 5 years of age. The actual number of sufferers is not known, but in many places the disease was epidemic, and there were something like 150 closures of schools on this account. This disease is the cause of more interference with school work than any other ailment, chiefly because of the extreme infectiousness at the very earliest stages. When an outbreak occurs at school there usually arises a crop of secondary cases in about 12 days and if these occur in school they promptly spread the seeds for another crop. In 12 days again most of the susceptible children will probably go down with the disease, and this coupled with the panic which now arises has the effect of seriously depleting the attendance. Closure at this stage may be necessary on educational and financial grounds, but it can have little effect as a public health measure. The course recommended in the Government Memorandum is to close the Department on the ninth day after the sickening of the first child and to re-open it five days later. In this interval the secondary cases will have developed at home, and the school may now be continued without experiencing another crop. In order that this procedure may be followed, it is necessary that teachers should promptly acquaint local medical officers of health of the first case, for the disease is not usually notifiable and he may not hear of it otherwise until too late.

There remains, of course, the risk of the disease spreading among children out of school by the close contact which is common in industrial centres. It is in this way that measles gains such a hold in the mining villages and in towns having an artisan population in a prescribed area. In 1909 the deaths were most numerous in Barnsley, Castleford, Darton, Handsworth, Hoyland Nether, Stocksbridge and in the Rural Districts of Doncaster, Hemsworth, Kiveton Park, Rotherham and Wortley.

Dr. Chrispin, of Castleford, complains that "mothers are absolutely callous in regard to this disease." Writing of the Barnsley Rural District, Dr. Sadler says,—“The majority of

“parents hold a sort of fatalistic view of measles,—that their children are bound to have it and therefore, when one child is down in the house with it, it is better to let them get it over together. It is hardly conceivable that this would be acted on if the parents realised that measles alone causes more deaths than scarlet fever, diphtheria, and typhoid fever put together. The danger of measles could almost be avoided if the sufferers were kept in bed for a sufficient length of time; but that, the mother apparently seems unwilling or unable to do. The result of letting children get up too early when convalescent after measles, is that they become especially liable to attacks of pneumonia, and in a great majority of cases it is pneumonia that kills the child. So soon as the generality of parents recognise this fact so soon will measles cease to be the dangerous disease that it is.”

Dr. Lawson, who is medical officer for the Urban District of Hebden Bridge and also for the Rural District of Todmorden, did not find much benefit from school closure in the urban centre but, he adds,—“I have found on the other hand, that closure of schools for measles in the adjoining Rural District, where children’s homes are far apart, has been attended with exactly opposite and more favourable results.”

Whooping Cough was less fatal in 1909 than had been the case for three years previously. Nevertheless, it claimed the lives of 276 infants and caused a vast amount of suffering. Epidemics occurred at Bolton-on-Deane, Cudworth, Pudsey, and in the Knaresborough, Selby and Tadcaster Rural Districts. Particulars as to the distribution of deaths are given in column 5 of table 2 (see end).

Phthisis, or Pulmonary Tuberculosis, caused fewer deaths in 1909 than has been the case in any previous year. The figure is still deplorable, however, when it is borne in mind that the great majority of the 1365 victims who succumbed in 1909 were citizens removed at the most useful or most promising period of their lives. The Annual Death Rate from Phthisis is now appreciably less than it was ten years ago, and there can be little doubt that this diminution is directly due to the active campaign of education that has been going on for almost twenty years. These rates are shown in the table on page 21, from which it appears that the phthisis deaths of 1909 were in the proportion of 0.88 per thousand of the population. That rate is diluted by being calculated on the entire population which includes a large juvenile population not especially subject to phthisis, and therefore it is advisable to look at the figures in another way to get at their true significance. Under the present conditions it is approximately correct to say that one out of every fourteen adult persons in the Riding will sooner or later die of phthisis. It is advisable to get the grasp of this fact lest there should arise a feeling that the diminishing and seemingly insignificant annual death-rate of 0.88

per thousand may be left to work out its downward curve without further effort on the part of Sanitary Authorities. Fortunately, the reports under review do not indicate any decline of enthusiasm in the crusade against consumption. On the contrary, there is a demand for more effort and a general call for some public means of affording to sufferers that assistance which their condition requires, and which is no less needful in the interests of public health. The absence of any Sanatorium accommodation is deeply lamented in many of the reports, of which the following are just a few examples:—

Dewsbury:—"Sanatorium accommodation for Dewsbury "is badly needed. It is a question of expense, but money has been "found for Isolation Hospital purposes, and when one realises "that more deaths take place from Tubercular Diseases than from "all other infectious diseases put together the necessity for action "is forcibly presented.

Ravensthorpe:—"It is to be hoped that before long the "question of providing hospital accommodation for tuberculous "patients in poor circumstances will be taken up with more vigour "than has hitherto been the case. In fact, such accommodation "should be provided out of the rates, as it would be a means of "preventing the disease being transmitted to other people."

Darfield:—"Sanatoria for the treatment of Phthisis, espec- "ially in the winter time, are badly needed, it being always borne "in mind that the usual charges make the private home beyond "the reach of the ordinary working man."

Brighouse:—"Sanatoria for consumptive patients have been "provided in many places, but to-day we are rather behind hand "in this direction in the West Riding, and very little can be done "beyond giving advice to known patients, on the best recognised "means of checking the spread of this truly dreadful illness."

Bolton-on-Deane:—"The provision of a Sanatorium for "Phthisis has been under consideration by the County Council for "some years, but as yet, such Sanatorium has not been provided, "though the necessity for it is more and more apparent every "year."

Saddleworth:—"A patient should have treatment at a "Hospital or Sanatorium for the following reasons. (1). Change "of air and better surroundings; (2) The superintendence of the "proper "open-air" treatment; (3) The patient is away from home "and so lessens the danger of infecting his relatives and friends."

Mytholmroyd:—"I have advocated and always shall advocate "National Hospitals. We are liberal with our money in many "directions; why not be liberal to the poor consumptives?"

Thornhill:—"There is no doubt that the provision of "Sanatoria for the early treatment of these persons would be well "spent money."

Wakefield:—"The question of open-air treatment of early "cases which I have advocated all along as a necessary part of "municipal effort in the control of phthisis, has not made much "progress during the year, but I trust that it will not be lost "sight of."

Mexborough:—"No scheme for combating phthisis can "achieve any considerable measure of success which does not "include a sanatorium in which the sufferers and their friends "can learn and the public can see illustrated the correct principles "of treatment, both curative and precautionary, to be adopted in "order to deal effectively with this dread malady."

Great Ouseburn:—"I think there is no question that a free "Consumptive Hospital in the Riding is an urgent necessity where "certain cases at any rate may be compulsorily isolated. I allude "to that class of case where there is no adequate accommodation "at home for isolation, and where the house is so small that it is "practically impossible to safeguard the health of the other "members of the house."

Hemsworth:—"The one great need is some means of isolation "combined with sanatoria treatment."

Honley:—"My own feeling is in favour of such work being "undertaken by the larger Local Authorities, that is the County "Councils, if not by the Imperial Government itself, the necessary "buildings to be the cheapest consistent with efficiency."

The last preceding expression is in relation to a proposal which was put forward for the provision of a local Sanatorium to serve all the districts in the Huddersfield Union. The reports from Holmfirth, Lepton, Whitley Upper, New Mill and other Districts contain similar expressions in favour of a larger combination. Several Districts have already attempted to provide something in the nature of accommodation for the treatment of phthisis, either in spare wards of isolation hospitals or in temporary shelters attached to such institutions. Doncaster, Balby, Wheatley, Keighley B, Bingley, Horbury and Selby are among the places where treatment of this kind is in practice. Several other reports state that local effort is being organised.

In 48 of the reports it is mentioned that voluntary notification of Phthisis is supposed to be in vogue, but the meagre figures resulting therefrom indicate that the measure is a failure in the absence of any tangible benefit accruing to the patients. In 94 Districts something was done by distributing handbills for educating the public as to the real nature of the disease, its preventability and curability. There is no doubt that there is much work to be done yet in the removal of improper housing conditions, overcrowding and defective ventilation of working

class houses, and this work is slowly but surely progressing. Patients discharged from a Sanatorium ought to become apostles of fresh air, able to carry their doctrines into homes where a handbill is likely to be disregarded.

Dr. Johnson of Normanton says,—“I believe that if every “bedroom in Normanton had a window continuously open “throughout the whole night (except in wild and foggy weather) “we should have an appreciable reduction in our phthisis returns. In Wakefield, Dr. Gibson enquired as to the house accommodation in 46 fatal cases and found that 24 were through houses and 22 back-to-back, surely a heavy incidence on the latter having regard to such houses being a small minority. With three exceptions all the 46 houses were working-class dwellings.

Dr. Castle thinks that the present crowded condition of Darfield favours the spread of tuberculous disease. In the adjoining District of Wombwell, Dr. Atkins noticed that “the “largest number of cases occurred in that part of the Township “which lies in the Valley and therefore is more liable to damp, “cold fog.”

Other Tabulated Diseases.—The table given on page 23 summarises the deaths from various other causes besides those just commented on, such as Cancer, Bronchitis, Heart Disease, etc. There is nothing in the Reports of a specially interesting or helpful nature in regard to these diseases.

Seasonal Prevalence of Disease.—A convenient index to the seasonal fluctuation in the prevalence of Infectious Disease throughout the year is afforded by the following tables. They are constructed from the figures of the Monthly Notification Summary.

Monthly Totals of Reported Cases, 1909.

	Jan.	Feb	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Small Pox ..	...	...	...	...	1	...	...	...	...	..	...	...	...
Asiatic Cholera ..	..	...	...	...	...	...	...	...	...	...	...	...	..
English Cholera ..	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria and													
M. Croup ...	137	128	171	147	113	96	106	111	133	156	173	147	1611
Erysipelas ...	105	86	97	86	87	95	62	77	82	82	113	97	106
Scarlet Fever ...	371	300	407	398	386	422	415	351	451	504	585	455	504
Typhus ...	...	...	..	...	...	...	...	...	1	...	...	...	...
Enteric Fever ...	94	67	51	79	52	46	46	37	100	102	75	34	78
Relapsing Fever	...	...	...	...	..	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	1	...	...	...	...	...	...
Puerperal Fever	3	7	9	6	6	5	13	7	6	4	3	6	7

Monthly Totals of Districts Reporting, 1909.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Small Pox ...	...	...	...	...	1	...	..	...	...	...	...	...
Asiatic Cholera	...	...	...	...	...	...	...	...	...	...	...	...
English Cholera	...	...	...	...	...	..	...	...	...	...	...	...
Diphtheria and M. Croup ...	59	57	63	49	56	51	46	47	55	68	66	69
Erysipelas ..	67	51	57	47	52	53	41	48	56	51	62	59
Scarlet Fever ...	85	80	81	82	89	90	89	88	98	93	94	88
Typhus ...	...	...	...	...	...	...	...	...	1	...	...	...
Enteric Fever	47	35	27	37	32	36	35	27	45	47	43	22
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	1	...	...	...	...	...
Puerperal Fever	3	7	8	5	5	5	10	7	4	4	3	6
Measles ...	37	32	36	29	32	46	39	32	25	24	31	30
Whooping Cough	29	22	20	18	26	31	30	34	25	16	26	22
Diarrhœa ...	7	7	4	5	5	11	17	38	35	20	22	7
Chicken Pox ...	11	17	11	16	20	28	24	12	11	18	25	31
Pneumonia ...	31	39	54	33	35	28	17	16	22	32	36	40
Influenza ...	35	61	92	50	18	17	11	4	15	24	48	62
Mumps ...	9	8	11	9	7	7	8	5	5	1	6	6
German Measles	3	6	13	7	9	11	6	3	3	2	5	5
Lead Poisoning	2	1	..	...	1	...	2	1	...	2	1	..

Isolation Hospitals.—Reference has already been made in the early part of the report to this department of the public health work in the Riding. The many Institutions which provide accommodation for infectious cases are of all types, from temporary wooden buildings to modern permanent hospitals, and the reports contain many suggestions worthy of consideration by the respective Authorities to which they are addressed.

As regards the extent to which isolation was practised in the Administrative County during 1909, the following table gives the gross figures. Details concerning each District are given in Table 3 (see end).

	Total cases notified.	Cases removed to Hospital.	
		Number.	Proportion.
Small Pox ...	5199	1	100·0 per cent.
Scarlet Fever ...		3440	66·2 „ „
Diphtheria and M. Croup ...	1644	789	48·0 „ „
Enteric Fever ...	789	530	67·2 „ „
Total 1909 ...	7633	4760	62·4 „ „
Total 1908 ...	6867	4099	59·7 „ „

The Medical Officer of Health for Stocksbridge (Dr. Robertshaw) writes,—“The hospital itself as I pointed out last year “is not only worse for wear but very much out of date. In fact “I have it on good authority that it is the worst Isolation “Hospital in the West Riding. It is therefore much to be “desired that the building of the new hospital should be taken “in hand at an early date.” At Mirfield.—“A proper discharge “block is much wanted, and this might occasionally be used for “the isolation of a suspect.” At Wakefield also “the need for a “small ward for the isolation of doubtful or mixed cases was “felt. The laundry accommodation is not satisfactory, and, “with the great increase of disinfecting work during the last “few years, more room at the steam disinfector is needed. “More closet and bath room accommodation is also needed “in the administrative block, as well as a store room.” At Ossett, a Sub-Committee was appointed to consider the absence of hospital provision, with the result that terms were made with Dewsbury. Dr. Green, of Ripon, advocates the provision of an isolation hospital outside the City limits. A small isolation hospital is among the sanitary requirements of the Springhead Urban District.

Several reports refer to the inadequate accommodation at the Wath Wood Hospital of the Wath, Swinton, and District Joint Hospital Board, and Dr. F. J. Burman writes,—“It is “sadly too small for the population of the district which it has to “serve, and as a consequence of this it has been sadly overcrowded “during the year, with the usual result of ear trouble and other “complications. However, the Hospital Board were, at the end “of the year, taking the question of enlargement seriously in “hand. During the year 1909 no less than 375 cases were “admitted into Hospital, making a total since the opening of “the Hospital on May 31st, 1902, of 1229 patients admitted.” The same writer also gives his views with regard to the Small-Pox Hospital at Hooper, belonging to the same Authority.—“It “is kept in good order and thoroughly aired and ready at an “hour’s notice to receive any small-pox patient should such un- “fortunately occur; but I would again point out that its 13 “beds are sadly too few for a population estimated at about “40,000.”

At least four of the reports complain of the want of a clothes van in connection with the Kirkburton Joint Hospital. Dr. Ramsden, of Saddleworth, advocates the provision of a portable disinfector. At the Horbury Hospital, also, a disinfector is said to be needed.

Water Supply.—There is probably no large part of the country which is as well supplied with drinking-water as the West Riding of Yorkshire. Most of the Municipal Corporations possess gathering grounds in the high moorlands, from which

they are able to supply water not only to their own constituents, but to those of adjoining districts. There is also a considerable number of Private Water Companies distributing excellent water from upland or underground sources. Of course, there are localities in some of the high-lying urban districts to which no regular supply is laid on, but speaking generally the communities which are at present without a piped water supply are in the Rural Districts remote from towns.

One of the serious problems of the next few years will be the provision of adequate water supplies in the east and south-east of the Riding, where the development of the coal-mining industry is rapidly converting agricultural villages into urban centres. For some of these places it is at present possible to obtain supplies from springs and local sources, while others may arrange for an extension of mains from the large water-vending Authorities.

Among the Rural Districts mentioned in the 1909 Reports as needing provision or extension of water supply are the following. It may be said that nearly all the more pressing cases lie to the east or south of the Riding.

Bishopthorpe Rural District.

Doncaster R. D. (Armthorpe and Wadworth).

Goole R.D. (Snaith, Rawcliffe, Hook).

Great Ouseburn R.D. (Green Hammerton).

Hemsworth R.D. (Moorthorpe and Grimethorpe).

Kiveton Park R.D. (District generally).

Knarborough R.D. (Hampsthwaite, Kettlesing, Scotton and Goldthorpe).

Penistone R.D. (Thurgoland, Crane Moor and Oxspring).

Pontefract R.D. (Brotherton)

Ripon R.D. (Mickley)

Rotherham R.D. (District generally)

Sedburgh R.D. (Hawes Junction, Dent and Gawthrop).

Selby R.D.. (Thorpe and Gateforth).

Settle R.D. (Malham, Kirkby Malham and Langcliffe).

Skipton R.D. (Grassington and Hetton).

Tadcaster R.D. (Sherburn and South Milford).

Thorne R.D. (District generally).

Wetherby R.D. (Spofforth, Kirkby Overblow).

Wharfedale R.D. (Adel and Cookridge).

There are also three Urban Districts where complaint is made of the absence of any public water supply, viz,—Barkisland, Tickhill and Midgley. In some other reports defects of various kinds are mentioned, such as lack of pressure, inconstancy of supply, turbidity, etc., but it is not possible to set them out here. There is record of much good work done in the way of extensions and improvements of water supply during the year, and it is to be hoped that many of the deficiencies mentioned in the Reports for 1909 will receive attention during the present year.

Lead Poisoning.—The well-known liability of West Riding waters to act upon lead pipes makes it necessary for medical officers of health to keep a watch on the re-action of the public water supply. In many districts samples are examined from time to time, and when they are found to contain lead the fact is reported to those who are responsible for the treatment of the water,—for by this time practically all the moorland water supplies are subjected to some kind of corrective treatment to remove their plumbo-solvent ability. It is reported that the supply of the Dewsbury and Heckmondwike Water Board has just been brought into line with the others and rendered safe by neutralization. There is no doubt as to the need for this, for fatal cases of lead poisoning occurred during 1909 in two districts where this untreated supply was in use, viz,—Ossett and Ravens-thorpe. In the Rawdon report it is stated that the Yeadon water still retains its plumbo-solvent action, and at South Crosland attention was called to a remnant of acidity in the Huddersfield supply.

The following extract from the Penistone Rural Report shows that well-waters are not necessarily free from plumbo-solvent power. Dr. Evans says,—“Early in January two persons suffering from lead poisoning were notified from Langsett. A sample of the drinking-water was sent to the public analyst and was found to contain a dangerous quantity of lead. This was a private supply, and the tenant for his own convenience had laid down lead-piping from the well to the house. On recommending him to cut off the piping he did so, and carried his water direct from the well; since then no complaint has been made.”

Sewerage and Drainage.—For several years past there has appeared in this Annual Report a list of places where the provision or extension of public sewers was required. A similar list is given below from the reports of 1909, and where the name of the district is printed in italics it may be taken that the item has appeared in former lists. The re-statement of the same requirement year by year seems to be a necessary preliminary to effective action in so expensive a matter as the laying down of new sewers in old localities, and it is chiefly under pressure of new housing developments that prompt extension of sewers takes place.

<i>Sanitary District.</i>			<i>Sewerage Developments needed.</i>
<i>Barnsley R.</i>	...	...	Carlton North (Wakefield Road side).
<i>Bingley</i>	...	...	Ryecroft and Harecrofts
<i>Birstal</i>	...	...	At two places
<i>Bishopthorpe R.</i>	...	...	Yes
<i>Brighouse B.</i>	...	...	Portion of Rastrick
<i>Burley-in-Wharfedale</i>	...	...	Elm Grove estate
<i>Clayton</i>	...	...	Re-sewering of one street
<i>Clayton West</i>	...	...	Substitution of old sewers
<i>Darton</i>	...	...	Yes, but contracts let for the work

<i>Sanitary District</i>			<i>Sewerage Developments needed</i>
<i>Denby and Cumberworth</i>	...	...	In Upper Denby
<i>Dewsbury B.</i>	...	...	Low side of Dewsbury Moor and Island View
<i>Doncaster R.</i>	...	...	Yes
<i>Drighlington</i>	...	...	Whitehall Road
<i>Elland</i>	...	...	Church lane, Lower Edge
<i>Emley</i>	...	...	Extension to Church Street
<i>Farsley</i>	...	...	Part of Sunfield
<i>Featherstone</i>	...	...	Snydale Scheme being prepared
<i>Flockton</i>	...	...	Flockton Green
<i>Golcar</i>	...	...	Dyke End
<i>Gomersal</i>	...	...	Church Lane, Bird Acre, Cliffe Lane, Lower Spen
<i>Goole</i>	...	...	Extensions
<i>Great Ouseburn R.</i>	...	...	Green Hammerton
<i>Gunthwaite and Ing</i>	...	...	Under consideration
<i>Halifax R.</i>	...	...	In parts of district
<i>Handsworth</i>	...	...	Hurlfield and Bartle Road (Gleadless), Vicar Lane and Junction Lane (Woodhouse)
<i>Hemsworth R.</i>	...	...	Grimethorpe
<i>Hipperholme</i>	...	...	Mytholm and Holly Bank
<i>Holme</i>	...	...	Completion of Scheme
<i>Holmfirth</i>	...	...	Shaley, Wood Bottom, Bog Ing, Cackworth Moor, Higgin Bridge, Totties, Hightown
<i>Honley</i>	...	...	Oldfield
<i>Horbury</i>	...	...	Several parts not sewered. Storm-water sewer needed at Horbury Junction.
<i>Hoyland Nether</i>	...	...	Several new sewers
<i>Hoylandswaine</i>	...	...	Relaying of old rubble drains
<i>Kirkheaton</i>	...	...	Several
<i>Kiveton Park R.</i>	...	...	District generally
<i>Knaresborough R.</i>	...	...	Kettlesing, Follifoot, Scotton, Ferrensby and Brearton
<i>Knottingley</i>	...	...	Womersley Road
<i>Leeds R.</i>	...	...	House connections at Roundhay
<i>Lepton</i>	...	...	General scheme in hand
<i>Meltham</i>	...	...	Parts still unconnected.
<i>Mirfield</i>	...	...	House connections
<i>Netherthong</i>	...	...	Outfall works and main sewer connections
<i>New Mill</i>	...	...	Flowery Field
<i>Ossett</i>	...	...	Healey. Before L.G.B..
<i>Pateley Bridge R.</i>	...	...	Schemes prepared for several Parishes
<i>Penistone R.</i>	...	...	Lower part of Crane Moor
<i>Pontefract R.</i>	...	...	Glass Houghton and Ferrybridge

<i>Sanitary District</i>			<i>Sewerage Developments needed</i>
Queensbury	...	...	Back Fold
Rawdon	...	...	Well Lane and Canada Road
Rawmarsh	...	...	Stormwater sewers, etc., in Park-gate
Ripon R.	...	...	Mickley and Skelton
Rotherham R.	...	...	Laughton, Maltby and Bramley
Saddleworth	...	...	Harrop Green and Diggle
Sedbergh R.	...	...	Millthorp
Selby R.	...	...	Cawood
Shelf	...	...	Stone Chair (under consideration)
Shipley	...	...	Wrose Brow, Shipley
Skipton R.	...	...	Bradley, Farnhill, Kildwick and Draughton
Soothill Upper	...	...	Hey Beck
Stocksbridge	...	...	House connections
Swinton	...	...	Streets off Wath Road
Tadcaster R.	...	...	Bilborough, Tadcaster, Church Fenton
Thorne R.	...	...	Colliery development will necessitate action
Thurlstone	...	...	Workhouse, Grammar School, Lodging House and neighbouring house
Tickhill	...	...	Yes
Todmorden B.	...	...	Several branch sewers
Todmorden R.	...	...	Charlestown
Wakefield R.	...	...	Warmfield-cum-Heath and part of Sharlston
Wetherby R.	...	...	Shadwell, Weeton, Huby, Bramham, Clifford and Spofforth
Wharfedale S.	...	...	Public scheme for Adel
Whitley Upper	...	...	Woodnook unsatisfactory
Wombwell	...	...	Station Road

A few extracts from the reports may be given to reinforce the above list:—

Holmfirth.—“The Cartworth Moor Sewerage remains very “unsatisfactory and the plan proposed nearly two years ago should “be carried out. I would specially urge the Council to take in “hand the sewerage of Hightown at once.” Saddleworth.—“I “would still call your attention to the condition of Diggle and “Harrop Green which also require sewerage.” Bingley.—“There “are still old walled drains acting as sewers in different parts of “the district, notably at Cullingworth.” Clayton.—“The drain- “age of Back Fold is in a very insanitary condition, the old rubble “drains being still in use.” Thurlstone.—“Nothing has yet been “done with regard to the drainage of Netherfield, the Work- “house, the Grammar School, and the Lodging House.”

Nuisances from sewage works or from untreated sewage are mentioned in a few of the reports. In the Barnsley Rural District the main Carlton Sewage Works gave rise to complaint as to effluvia, and similar objections were raised in respect of sewage works at Horbury and at Cooper Bridge. In the warm weather the open dyke at the lower end of Thorne was again a cause of complaint. At Gomersal, the dealing with the drainage at Dyke End remains in abeyance, causing great nuisance. The sewage system of Vale Cottages, Knottingley, is described as a danger to the tenants, and at Denby sewage from a cesspool overflows into the graveyard. The Darton report speaks of stagnation in certain open sewers and the necessity for flushing the main sewers. In parts of Dewsbury the street gullies are said to become miniature cesspools owing to household slops being emptied into them.

Smells from sewer manholes are less frequently mentioned in the reports than formerly, and it is evident that the system of ventilating by upright shafts is being largely adopted in the Urban Districts with very satisfactory results. Dr. Baskett refers to the many vehement complaints of smells from sewers in that part of Roundhay which drains into the Leeds sewers. He explains that "Roundhay being at the higher level the sewer gas tends to rise to it, and it is at the higher point of the system near to the "Mansion" or above, where the complaints are loudest." The provision of additional ventilators for sewers is recommended in the reports relating to Birstal, Denby and Cumberworth, Ilkley, Liversedge and Mirfield.

Closets.—An immense amount of work has been done in recent years in the substitution of privy-middens by water closets. In the 1909 reports mention is made of 2474 such reconstructions, and there are signs of a recent increase of activity in this work. The evidence which is rapidly accumulating as to the connection between privy-middens and disease has been referred to elsewhere in this report; and the crusade now established against flies as disease-carriers will undoubtedly lead to the abolition of the more offensive and dangerous types of middens.

Many of the reports contain an appeal for a more rapid substitution of these places by water closets and sanitary bins. Dr. Hillman, of Whitwood, says:—"I desire once more to emphasise my opinion that the institution of a water-carriage system for sewage is an urgent requirement of our District. I am satisfied that if we are to find a remedy for the large mortality amongst infants, the direction in which it lies is in the thorough, complete, and immediate removal of household sewage from the vicinity of the dwellings of the people."

Dr. Craik gives the following account in the Thurnscoe report: "The ashpits in a large number of cases are leaky, also the roofs

“allow of the entrance of rain-water, which permeates and
 “pollutes the adjoining subsoil. During the hot summer season
 “these privy-middens are a great nuisance, not only on account
 “of the vile odours which emanate therefrom, but chiefly from
 “the poisonous material which is generated and harboured there-
 “in and afterwards carried indoors by flies, etc., inoculating
 “milk, butter, meat, and other articles of food. There can be
 “no doubt that these have a great and evil influence on the
 “infantile death-rate. Great reforms cannot come all at once,
 “but one sincerely hopes that in the course of a few years these
 “filthy generators and storehouses of disease will be abolished,
 “and w.c.’s and dustbins substituted.”

The Monk Bretton Urban Council is apparently slow to recognise the importance of the subject, for Dr. McSwiney complains that “of the 51 buildings erected during the year, only 4 were
 “supplied with water closets, and no action has been taken by
 “the Council for the conversion of dry ash-middens into water
 “closets.” The following account is from the adjoining district of Ardsley, by Dr. Townsley: “In Keel Yard, Stairfoot, the dirty
 “and foul condition of the ashpits and privies excites the disgust
 “of the scavenger. [During the year there were two makers of
 “Ice Cream in the Township, one of which was situated in Keel
 “Yard. The building in which the Ice Cream was made and its
 “surroundings, were, however, so insanitary that the making
 “of this commodity in this particular place, was ordered to be
 “discontinued.”] “In Hoyle Mill District there is a defective
 “privy accommodation at the bottom of Armin Street and Dove
 “Row, in one particular instance a closet of three compartments
 “having to serve about ten houses, and being situated about
 “four feet from the bottom dwelling-house. Increased and
 “better privy accommodation is certainly much needed in this
 “street.”

Other districts needing abolition of privy middens are Featherstone, Greasbrough, Normanton, Rawdon, and Rawmarsh. By way of contrast, it is pleasant to read in the Morley report that there has been a marked decrease in the number of cases of Enteric Fever since the increase of activity in replacing old privy-middens by water closets.

Scavenging.—Neglect in removing excrementitious matter from the vicinity of houses is a constant source of nuisance and undoubted danger to health. All progressive Authorities recognise that the only system which is fit to be tolerated in populous centres is one which provides for regular removal at short intervals—preferably by the direct staff of the Sanitary Authority. In a large but diminishing number of districts scavenging is let out to contractors, who are often farmers and who are greatly tempted to neglect the work when their other interests are pressing. The following are the affirmative notes

taken from the Annual Reports of 1909 in answer to the question,
 “Is there any inadequacy in scavenging?”

<i>Scavenging.</i>			<i>Inadequacy.</i>
Barkisland	...	...	Council considering matter
Birkenshaw	...	...	At Drub, owing to want of tip.
Castleford	...	...	Difficulty in disposal of night-soil.
Earby	...	...	Contractors delay clearing.
Gildersome	...	...	Irregular at times.
Greasbrough	...	..	Yes, occasionally.
Holmfirth	...	...	System not satisfactory.
Midgley	...	...	System needed.
Netherthong	...	...	Ashton, top of Outlane.
Rishworth	...	...	In emptying of privy-ashpits.
Saddleworth	...	...	Denshaw.
Shelley	...	...	No System
Soyland	...	...	Complaints as to irregularity.
Swinton	...	...	Many complaints.
Tickhill	...	...	Yes.
Whitley Upper	...	...	General
Bishopthorpe R.	...	...	General
Bowland R.	...	...	Grindleton.
Doncaster R.	...	...	Bawtry
Goole R.	...	...	Rawcliffe
Great Ouseburn R.	...	...	Boroughbridge.
Keighley R.	...	...	Public scavenging needed.
Knaresborough R.	...	...	Killinghall, Pannal and Knares- borough Outer.
Leeds R.	...	...	Where done by farmers.
Pateley Bridge R.	...	...	Pateley Bridge
Penistone R.	...	...	General
Rotherham R.	...	...	General
Sedbergh R.	...	...	Dent.
Settle R.	...	...	Public scavenging needed.
Thorne R.	...	...	Yes, at Thorne
Wetherby R.	...	...	Collingham, and East Keswick.

To supplement the above with direct extracts from the reports ought not to be necessary, but the following examples may be given in the hope that the desired alteration may be brought about.

Holmfirth.—“It is to be regretted that in the six years which “have elapsed (since a Special Sub-Committee made certain “recommendations) the matter has not proceeded beyond the “stage of academic discussion.” *Knaresborough*.—“Scavenging “is still done by a contractor notwithstanding that nearly a year “has elapsed since the Council decided to undertake the work “themselves.” *Goole Rural*.—“The scavenging at Snaith is still “the cause of complaint. It is performed by a contractor for the

“Rural Council.” *Penistone R.*,—“The great difficulty is that at the time (in summer) when the scavenging is most needed the farmers are too busy, and do not remove the deposits from the closets.” *Rotherham R.*,—“I have both received and made many complaints as to the irregular way the midden-ashpits have been emptied at Whinney Hill and Dalton Brook, and to a lesser extent at Laughton Common.” *Pateley Bridge*,—“It seems a pity that when we have an up-to-date method of treating our sewage, a splendid water supply, and a most progressive Sanitary Authority, that this unit (scavenging) should remain a nuisance upon the town, where it is so much in evidence.” *Swinton*,—“If the Council could only abolish privy-middens, we should have a decrease of deaths, but if they cannot, then an arrangement should be made to have these insanitary places emptied once a week during the hot summer months, and by means of iron sheets or other arrangement protect the walls, pavements and roadways from being befouled, and so prevent a sickly nuisance which often lasts two or three days.”

The disposal of the refuse is often as serious a difficulty as its collection, especially in towns where there is no demand for it as manure and no land suitable for “tipping.” A refuse destructor is advocated in the reports from Barnsley, Brighouse, Bolton-on-Dearne, Cudworth, Horbury, Morley, Rawmarsh, Silsden, Skipton and Wath. In the Morley report, Dr. Steele writes,—“The midden contents have been taken by the rhubarb growers for manure. A nuisance is caused in connection with this disposal of the nightsoil, especially near the town, by the dispersion of the lighter portions such as paper, by the wind. These are blown into the streets, roads, and footpaths, and are a considerable nuisance and certainly dangerous to health.” In the Netherthong report it is stated that “the open ashplace and general refuse heap at the top of Outlane is a gross nuisance and should be discontinued.

Condition of Yards and Back Streets.—Closely connected with the question of closets and scavenging is the sanitation of the spaces in the vicinity of houses. These spaces are often the playgrounds of the children, and, as every housewife knows, the condition of the yard re-acts directly on the condition of the interior of the dwelling. What she probably does not know, however, is that the unpaved, sodden or dusty surroundings of the house, charged with organic filth of all kinds, are a menace not only to the visible cleanliness of the rooms, but to the life and health of the family. It is in many ways to the interest of the Sanitary Authority to secure the proper paving and draining of yards, for as Dr. Gibson has observed in Wakefield, “a well-paved yard is not only very sanitary in itself, but induces a higher standard of cleanliness on the part of the tenants.” At Bolton-on-Dearne, Dr. Burman

says :—"The condition of our backyards still leaves very much "to be desired, there is far too much kitchen refuse thrown about "in the yards, and the number of ashpits without grates is on "the increase. Something drastic will have to be done in this "matter before long, and the sooner a batch of houses is taken "and the landlords made to put these grates in good repair, the "better." At Darfield, Dr. Castle continues to find "many of "the gullies and sink-drains blocked up with filth, and the sinks "discharging their overflow steadily on the surrounding "soddened ground." In the Normanton Report, Dr. Johnson states that "the condition of the yard opposite the low end of "Webster Place is such as to be a source of any amount of "bacteria-caused disease." It is mentioned that at Cleckheaton there are many backyards that require paving.

Back roads and private streets are a cause of many complaints, and there is often great hesitancy on the part of the Sanitary Authorities in enforcing a remedy. At Horsforth, it is said that Long Row and Low Lane "are in a deplorable condition," and at Holmfirth, "Norridge Bottom should be taken "over and efficiently paved." In the Selby Report, Dr. Stedman points to the unsuitability of ash surfaces for back roads where there are box closets liable to leak. Many of the unadopted streets of Rawmarsh are said to be in a disgraceful state. A list of other sanitary districts where attention is called to the condition of backyards or streets would include Ardsley, Calverley, Castleford, Darfield, Denholme, Featherstone, Garforth, Gildersome, Gomersal, Greasbrough, Handsworth, Knottingley, Liversedge, Mexborough, Rawmarsh, Silsden, and Thurnscoe.

Housing of the Working Classes.—It is abundantly clear from the reports that there is a vast amount of work waiting to be done under the new Housing and Town Planning Act, and most of it comes under the head of "Housing" rather than "Town Planning." In a very large number of cases there are dwellings which, though not bad enough to justify complete condemnation are not "in all respects reasonably fit for human habitation." Such houses have hitherto been readily let with a tacit understanding between landlord and tenant that the defective conditions were part of the letting. But by Sections 14 and 15 of the new Act it is provided that in future lettings of this kind there shall be implied a condition that the house is in all respects reasonably fit for habitation, and moreover that the landlord will keep it so throughout the tenancy. If it appears to the Sanitary Authority that this implied contract is not being observed they may serve written notice on the landlord specifying the work to be done within a given time; and in certain circumstances they may do the work themselves and recover the cost. If this new power is judiciously employed it should be possible to bring about a steady improvement in many working class quarters without the risk of adding to the dearth of

houses which in some instances prevents Sanitary Authorities from seeking total closure.

As regards the procedure for closing uninhabitable houses, the Act of 1909 makes an important change whereby the Sanitary Authority itself is vested with power to order closure, and with the duty of following this up in certain cases by demolition. Section 17 clearly lays it down that every local authority must cause periodic inspections to be made with a view to ascertaining whether there are any dwellings unfit for habitation, and it is important to note that the Sanitary Authority need no longer tolerate uninhabitable houses which are unoccupied.

Among other important provisions in the new Act are some which give greater facilities for the erection of working class dwellings by the Sanitary Authority, and for the carrying out of improvement schemes. There is also an absolute prohibition of the erection of back-to-back houses in future.

In the reports for 1909, mention is made of the erection of nearly 5,000 new houses, mostly cottage property of the through type known as scullery houses. The districts apparently having the greatest activity in building were Altofts, Balby-with-Hexthorpe, Barnsley, Bolton-on-Deane, Castleford, Cudworth, Darton, Goole, Handsworth, Lepton, Linthwaite, Marsden, Mexborough, Mytholmroyd, Roystone, Stanley, Stocksbridge, Wath-on-Deane, Worsborough, Wombwell, Doncaster Rural, Hemsworth Rural, Kiveton Park Rural, Pontefract Rural (Glasshoughton), Rotherham Rural, Skipton Rural (Earby), Tadcaster Rural, Thorne Rural.

As has been mentioned elsewhere in this report, extensive coal mining developments are going on in the Doncaster Rural, Rotherham Rural, and Thorne Rural Districts, and many parts of these areas are likely to become thickly populated centres. Dr. McLean writes in his report to the Doncaster Rural Council as follows:—"I would suggest that when new estates are to be opened up for building purposes, the Council should require matters in connection with drainage and sewage disposal, water supply, and the laying out of streets and roads, to be arranged for and even carried out, prior to erecting the houses, and so avoid the very insanitary and dangerous conditions which frequently result in the present method of leaving these matters until after the property is erected. No more expense would be entailed by such method, but rather the reverse."

Referring to the new houses in the Stocksbridge district, Dr. Robertshaw says:—"It is to be regretted that in these days of garden cities there should be a tendency to crowd houses on the

“land in a district where land is cheap. Looked at from the point of view of the health and happiness of the tenants, as well as on the ground of the ultimate deterioration in the value of the property, this tendency is to be deplored.” Similarly at Bolton-upon-Dearne, Dr. Burman calls attention to “the way in which houses are crowded together, thus interfering seriously with the circulation of fresh air in and around houses, and the very rare occasions in which any garden whatever is attached to cottage property either in front or at the back.” Speaking of the houses in the colliery parishes at Kippax and Allerton, Dr. Stedman says: “Unfortunately almost all the houses are being built with two bedrooms which at best give poor accommodation for the large families usually occupying them, and in the event of an infectious case occurring, isolation cannot be obtained.” Dr. Burman, in the Wath-upon-Dearne report, pleads for “a little more attention to be given to the plans for new houses, which are placed before the Building Committee, and a little more notice taken of what your Medical Officer has to say about these plans.” In the Rawmarsh report, a flagrant instance of an insanitary new house is described, and Dr. Menzies urges the Authority in future “to take every possible precaution before passing any plans to see that they are in accordance with the Byelaws, and that the builders understand exactly what is required of them.”

In a few districts, the Sanitary Authority has exercised its powers to build houses for the working class, and several medical officers recommend that this work be extended now that money can be obtained for a longer period. At Flockton and Whitley Upper, houses erected by the Council are fully occupied, and in the neighbouring district of Lepton the Council is said to be considering the advisability of erecting houses. Dr. Hillaby strongly recommends the Pontefract Corporation to undertake an improvement scheme for dealing with the insanitary area on the north side of the Horsefair. In his report on Wakefield, Dr. Gibson expresses the hope that the Corporation will deal radically with Tidswell's and Spawforth's Yards, Westgate, and he adds: “By dealing radically I mean a complete clearance of the houses on the area, for the condition of the houses and the arrangement of the yards will not lend themselves to any satisfactory improvement short of clearance. Indeed, a complete demolition of all the buildings between Westgate and Back Lane, and right down from Brewer's Arms Yard, would effect a much-needed improvement in the appearance of the City, and clear away some of our worst dwelling houses. This would involve the removal of the old, unsightly and, in some places, ruinous buildings belonging to the West Riding Standing Joint Committee.”

To remedy all the defective houses which are known to

exist would keep many Sanitary Authorities and their staffs fully occupied. It is to be hoped, however, that under the new provisions this work will be gradually overtaken. The following are a few examples which might receive attention:—

Goole.—"Nothing has yet been done to Paradise Place, Wesley Square, Park Terrace, and Duckels Buildings. These properties have previously been reported upon. The time is now suitable for action being taken with regard to the property in Jackson's Yard." *Hoylandswaine*.—"At Hill Top the house occupied by G. C. has a closet in a dilapidated state with the door off its hinges. I reported this house as being unsatisfactory as to its drains last year. There is an objectionable heap of refuse and ashes deposited in the road close to the house. At Hill Top also the house occupied by C. B. has its closet flooded with sewage, causing a serious nuisance. This house has the spouting broken away from the roof. The house occupied by A. K. at Fell Lane Farm, is in an unsatisfactory condition; the floor of the kitchen is flooded with water, which rises up between the flags and makes this room unfit to live in." *Thurlstone*.—"Some of the worst cases at Hill Side have not yet been dealt with, and I reported some fresh cases at Ecklands which require urgent attention." *Mexborough*.—"I have once more to deplore the fact that, notwithstanding my repeated recommendations, houses hopelessly unfit for habitation and unpaved yards in your district, are decreasing at a very slow rate."

Dr. Hargreaves, in the Wetherby report, mentions the difficulty of dealing with the poor man who lives in his own insanitary house, and cannot afford to remedy it. At Holmfirth, also, Dr. Trotter finds "that working class folk of small capital not infrequently invest their savings in cottage property, and at death leave a widow or other dependent, whose sole source of income is such property. We sometimes get houses going to the bad for want of expenditure by the owner, when to enforce such expenditure would mean sending the owner to the workhouse."

OVERCROWDING.—This is another difficult phase of the housing question, for the complete removal of which it would be necessary to have plenty of suitable houses and good wages with which to pay rents. In Wakefield, Dr. Gibson reports that "there are many tenants with large families and insufficient house accommodation who would be glad to move into larger houses if they were to be had, or if they could afford the rent. I find that in Sandal district things are about as bad in this respect as in the old area. Since house-to-house inspection was commenced there, several cases of overcrowding have come to light, but the Inspector tells me that, though the tenants appear genuinely anxious to get more house-room, they appear quite unable to

“secure it. The larger the family a man has, the greater difficulty he experiences in getting a house.”

At Normanton, “the house accommodation at the present time is distinctly insufficient to meet the requirements of the inhabitants, it being quite a common thing to see two families housed in one cottage with two bedrooms.” Notices to abate overcrowding were issued in eleven bad cases at Dewsbury, where Dr. Halliwell observes:—“The worst feature in many cases is the lack of bedroom accommodation, and from a health point of view it is the most important. It is quite common to see bedrooms containing two large beds separated only by an improvised curtain, one bed occupied by the parents, and the other by another grown-up member of the family. In many cases the living-room has also to serve as a sleeping-room, a shut-up bed being used.”

Overcrowding occurs in many places in the Penistone Rural District, and Dr. Evans says:—“The chief difficulty of overcoming this condition is the lack of houses. Only two houses have been built during the year.” At Darfield, “those who marry find that they are unable to get houses, and go into lodgings with relations or friends.” In the neighbouring district of Bolton-on-Dearne, there are a very large number of instances where two families are occupying one house, and it is said that if 400 more houses were built at Goldthorpe they could be tenanted immediately.

In the Doncaster Rural District, action was taken with regard to 21 cases of overcrowding, but Dr. McLean thinks that this gives “but little idea how extensively overcrowding exists in some parts of the district, more especially in the mining centres. The conditions are, however, most difficult to deal with.” At Darton, the evil of overcrowding “is made worse by the owners of property discouraging the letting of their houses to persons with large families.” At Holmfirth, a case was discovered where “nine persons occupied one small bedroom, which allowed of a cubic space of less than 200 cubic feet per head.”

Factories and Workshops.—Every medical officer of health is required to report on the local administration of that part of the Factory and Workshop Act which comes within his province. He has also to fill up a statistical table supplied by the Home Office. The figures given below are summarised from those reports (156 in number) where the requisite information is supplied.

	Factories.	Workshops.	Workplaces.	Homeworkers' Premises.
Total Inspections made ...	1824	6318	453	199
„ Written Notices served	165	149	27	—
„ Prosecutions	—	—	—	—

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :—</i>				
Want of Cleanliness	159	148	—	—
Want of Ventilation	43	42	1	—
Overcrowding	9	9	—	—
Want of Drainage of Floors ...	6	6	—	—
Other Nuisances	86	81	—	—
Closets Insufficient	71	47	9	—
,, Unsuitable or Defective ...	216	180	6	—
,, Not Separate for Sexes ...	21	11	2	—
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal Occupation of Underground Bakehouse (S. 101)	3	2	1	—
Breach of Special Sanitary Requirements for Bakehouses (SS. 97 to 100)	5	5	—	—
Other Offences (see also under Homework)	3	2	—	—
Total offences ...	622	533	19	—

Smoke.—Nuisance arising from the emission of dense black smoke from factory chimneys is a matter which requires tactful handling. The suggestion, however, that trade prosperity demands that the nuisance be tolerated is insulting to the intelligence of the people who are being deprived of a part of their right to fresh air and sunshine. In the Wakefield report, Dr. Gibson says: “The smoke nuisance, like the poor, is always with us, and I should like to see more active measures taken with regard to it. It is a very striking fact that the chimneys of certain works give out little black smoke, whilst the chimneys of other works (all with boiler furnaces) give out large quantities. If the one manufacturer can keep down his black smoke to a minimum, why shouldn’t the other be induced to do likewise?”

The same writer goes on to mention a particular Steel Rope Works, the smoke nuisance from which “could hardly by any chance be worse.” Dr. Gibson’s remarks would be corroborated by any observant visitor to Wakefield, for the almost continuous discharge of enormous quantities of dense black smoke from these

works is having a deleterious effect in all parts of the City. If it is suggested that the nature of the processes demands such a scandalous pollution of the atmosphere the experience of Sheffield is proof to the contrary. In that city where steel works abound, a nuisance of this degree would certainly not be tolerated from any single works.

Referring to the smoke from factory chimneys, Dr. Milne, of Mirfield, says: "It is wasteful to emit black smoke, and money could actually be saved by consuming it. Then the public at large would benefit greatly—windows could be left open with greater comfort, and more health-giving violet rays admitted into our dwellings."

At Cleckheaton, Dr. Sutherland reports as follows:—"The improvement noted last year has not been continued, and there is far more smoke turned out than there ought to be. The detrimental effect of air-pollution is a serious problem, for the amount of soot precipitated in the course of a day must be considerable, and of this some cannot be removed by rain as it is of a sticky tarry nature and very destructive to vegetation. In calm weather the smoke whilst fouling the air also keeps out the sun."

Totalling up the observations taken throughout the year in the various districts of the Riding, we find that only 2,540 were made. As these would usually be "one hour observations," it is obvious that too little attention is given to this important subject. Naturally local sanitary inspectors are not always encouraged to push this section of their work (even if they had time) in districts where their own employers are liable to be offenders. In several reports it is suggested that a matter of this kind should be in the hands of independent observers appointed by the Government or the County Authorities. Mention is made of only seven prosecutions, and these were confined to the two districts of Saddleworth and Hebden Bridge. In the Soothill Upper district (now part of Batley) a burning pit-hill is mentioned as the source of a disagreeable smell. It ought not to be impossible to deal with a nuisance of this kind, for which the owners should be held responsible.

Nuisances, Etc.—Many of the defects discussed in this report under other headings (*e.g.*, closets, houses, factories, smoke, cowsheds, etc.,) are recorded as nuisances, and when all kinds are totalled for the year 1909, we get a very large figure. The following statement gives the information as summarised from the various reports:—

No. of nuisances in hand at end of 1908	...	...	2882
No. reported during 1909	...	...	20595

			23477
No. abated during 1909	...	...	22556

No. remaining in hand at end of 1909	...	...	921

No. of legal notices to abate	...	...	3523
No. of Summonses for non-abatement	...	...	68

It is also recorded that during 1909 there were no less than 2633 sink wastes newly disconnected from the drains and 2941 sink wastes newly provided with traps. It is stated in 79 of the reports that systematic house-to-house inspection is carried out by the sanitary staff, but there are many districts where the inspectors have no time for routine work of this description. At Emley, Dr. Bell writes:—"The most important sanitary requirement is the need of more systematic inspection and record. As matters stand, this cannot properly be carried out without another official, who might be employed jointly with adjacent districts." At Horbury it is reported that the sanitary needs of the district have not had sufficient attention for some years past, and a separate appointment of sanitary inspector seems desirable. In the Rotherham Rural District an additional inspector is said to be much needed. As already mentioned, the new Housing Act requires house-inspection to be done periodically in all districts and proper record kept of the results.

Dairies, Cowsheds and Milkshops.—There are in the West Riding Administrative County some 6,000 cowsheds, and it is recorded that during the year 1909 the local sanitary officials made 5453 inspections of these premises, as a result of which many improvements were undertaken. That much remains to be done is evident from the long list of districts (not complete) where cowsheds are described by the medical officer of health as other than satisfactory.

<i>Sanitary District.</i>			<i>Condition of Cowsheds.</i>
Baildon	...	...	Unsatisfactory
Barkisland	...	...	Some defective
Barnoldswick	...	...	Poor generally
Clayton	...	...	17 require attention
Cudworth	...	...	Structural improvements still needed
Featherstone	...	...	Drainage and ventilation deficient in many
Flockton	...	...	Poor
Gomersal	...	...	Many deficient in air space and lighting.

<i>Sanitary District.</i>			<i>Condition of Cowsheds.</i>
Gunthwaite and Ing.	...	...	Unsatisfactory
Handsworth	...	...	Several deficient in light
Holmfirth	...	...	Good, bad and indifferent
Horbury	...	...	Ventilation and air space chief deficiencies
Hoylandswaine	...	...	One bad, rest poor
Hunslet R.	...	...	Some want of cleanliness
Marsden	...	...	Many improvements yet required
New Mill	...	...	Many defective
Rawdon	...	...	Some unsatisfactory
Rishworth	...	...	No register kept
Settle R.	...	...	Poor
Skipton	...	...	Not satisfactory
Skipton R.	...	...	Structural alterations required.
Soyland	...	...	Some faulty
Thurnscoe	...	...	Defective in light, ventilation, etc.
Worsborough	...	...	Four bad

In the Wortley Rural District 53 notices were issued during the year for the alteration of cowsheds, and in many of the reports it is stated that improvements are being rapidly made. At Birkenshaw several cowsheds have been reconstructed, and Dr. Forsyth says "The farmers are beginning to see that it is more healthful for the animals to have a fair amount of air-space and light." Of the Wetherby Rural District, where, by the way, there is said to be a scarcity of cows' milk, Dr. Hargreaves says "It is impossible to speak too highly of the care with which certain dairy farmers in your district carry on their business." At Dewsbury, Dr. Halliwell reports that "On each shed door "is fixed an enamelled plate stating the maximum number of "cows which can be kept." In the report for Gunthwaite and Ingbirchworth it is stated that "the condition of "the cowsheds generally is just as it was when last reported on." In the Holme District there are no Regulations under the Dairies Cowsheds and Milkshops Order.

A plan which has been tried in several districts and which is productive of excellent results is for the members of the local Sanitary Committee to accompany the Inspector on a round of visits to the cowsheds.

The sale of milk derived from cows affected with tuberculosis of the udder is a danger to the community which many of the Authorities are now trying to avert, and in this work they have the assistance of the County Health Department. Since it is impossible in such a large area to be constantly examining samples of mixed milk in sufficient numbers to afford an adequate safeguard against the consumption of tuberculous milk it has been

suggested that the only effective check is to be obtained by instituting regular veterinary inspection of the cattle with power for the inspector to take samples from the suspected animals. Where this system is adopted it is found that great improvement is achieved in the general tone of the cattle and in the entire conduct of the business. Keighley, Rothwell and Selby may be quoted as places where this system is in vogue, while at Knaresborough the Cowkeepers' Association have appointed a Veterinary Surgeon to make periodical inspections. In other places the Sanitary Authority has authorised the medical officer of health to call in the aid of a Veterinary Surgeon whenever it appears desirable.

Other Regulated Buildings and Trades.—Besides the dairies, cowsheds and milkshops, there are common lodging houses and slaughter houses calling for regular inspections, and in some districts there are also canal boats and offensive trades to be regularly visited. The following figures, extracted from the reports of 1909, are not by any means complete but they show that a considerable amount of attention is given to these subjects.

	No. in District.	No. of Inspections during 1909.
Common Lodging Houses	131	2005
Slaughter Houses	1127	14134
Canal Boats	1554	1683
Offensive Trades	195	1746

As regards *Common Lodging Houses*, the reports indicate that, generally speaking, the premises are kept in a fair or satisfactory condition. No prosecutions are recorded. The Keighley Report makes reference to the "Houses let in lodgings," which are, of course, not under the same stringent regulations as common lodging houses. Dr. Scatterty says of them: "The majority are a disgrace to their proprietors, and it seems to me that only freedom from supervision would tempt anyone to pay an extortionate rent for a dingy hovel furnished with an apology for chair and table and the unwashed rudiments of bed and bedding. *Slaughter Houses* are the subject of many complaints in the Reports for 1909, and there is a strong demand for public abattoirs where better sanitation and more complete inspection are ensured. Dewsbury, Morley, Pontefract, Ripon, Mexborough and Silsden are among the places where the need is felt for a public slaughter house. The Otley slaughter houses are said to be "all situated in objectionable positions and many are badly constructed." In the Tadcaster Rural District several complaints were made of the storage of offensive material in close proximity to slaughter houses. Dr. English of Swinton calls for the removal of privy middens from the immediate vicinity of slaughter houses, and Dr. Menzies of Rawmarsh complains that a new slaughter house has been built within 21 feet of a dwelling.

There were 236 seizures of unsound food during the year, but this figure includes food other than butchers' meat. At Darton a man was sent to prison (in default of paying a fine) for being in possession of diseased meat intended for the food of man, and similar treatment ought surely to have been tried in a case at Soyland, where Dr. Hoyle reports as follows:—"I visited this farm at two in the morning and I found tuberculous carcasses dressed and hanging. You informed me that no action could be taken as the meat was not exposed for sale, yet the same meat was sold in one of the Lancashire towns in a few days."

Sale of Food and Drugs Acts.—Included in the total of 2739 samples analysed (see page 12) are 463 submitted by the officers of the various local authorities in the Riding. The following table gives in list form those districts which participated in this sampling and the number of samples taken in each:—

Batley B.	... 33	Horbury	... 10	Ripon C.	... 6
Birstall	... 5	Horsforth	... 9	Rothwell	... 32
Brighouse B.	... 5	Hoyland Nether	8	Shelf	... 4
Castleford	... 5	Ilkley	... 24	Soothill Nether	5
Elland	... 15	Keighley B.	... 14	South Crosland	5
Featherstone	... 5	Marsden	... 12	Todmorden B.	... 26
Golcar	... 6	Meltham	... 10	Worsborough	... 18
Gomersal	... 8	Methley	... 1	Bowland R.	... 1
Goole	... 5	Mirfield	... 16	Doncaster R.	... 13
Guisseley	... 1	Morley B.	... 19	Hemsworth R.	... 2
Harrogate	... 61	Ossett B.	... 11	Wakefield R.	... 15
Hebden Bridge	6	Pudsey B.	... 33		---
Honley	... 9	Rawmarsh	... 5		463

The records show that 317 of the above samples were new milk samples taken under the arrangement by which the County Council pays the Analyst's fee.

In addition to the above Authorities there are, of course, the four Boroughs possessing their own Analyst, viz., Barnsley, 107 samples; Dewsbury, 60; Doncaster, 90; Wakefield, 132. Totalling these figures with those on page 12, it will be seen that for the entire Administrative County the gross number of samples analysed during 1909 was 3,128, or 2.0 per 1,000 of the population.

Meteorology.—The appended tables relating to temperature and rainfall are based upon the observations recorded in the reports of the various medical officers of health. The reports contain many references to the influence of weather on health, of which the following from Dr. Sadler's report (Barnsley R.) is a specimen,—“To sum up, it was a year of cold weather and much rainfall. The combination of circumstances was very disastrous to the farming interest, but undoubtedly beneficial to the health

“ of the community, in proof whereof the death-rate for England
 “ and Wales is the lowest ever recorded, and infant mortality for
 “ England and Wales is likewise the smallest on record.”

MEAN TEMPERATURE, in Degrees Fahrenheit:—

			1909	1908	1907	1906
Bolton-on-Dearne	...	...	47·9	44·6	46·0	46·4
Brighouse	...	...	46·5	47·7	47·0	46·0
Doncaster Boro'	...	...	50·9	50·9	51·1	?
Goole	...	...	45·0	45·0	45·0	47·0
Harrogate	...	...	45·4	46·7	46·2	48·1
Hebden Bridge	...	...	45·0	46·3	46·5	46·5
Ilkley	...	...	45·7	46·7	46·1	47·0
Mexborough	...	...	48·4	49·9	48·9	52·8
Mytholmroyd	...	...	46·4	46·5	46·5	46·5
Ossett	...	...	45·9	45·5	46·7	48·3
Pudsey	...	...	46·1	47·4	44·6	47·0
Skipton	...	...	46·9	47·9	47·6	48·4
Swinton	...	...	46·8	48·1	47·2	47·3
Wakefield	...	...	46·5	47·5	47·0	48·1
Wath-on-Dearne	...	...	44·5	44·6	46·0	46·4
Worsborough	...	...	48·4	50·9	49·4	50·2
Bowland R.	...	...	46·9	46·9	46·9	46·9
Doncaster R.	...	...	48·2	48·8	47·2	48·5
Kiveton Park R.	...	...	47·4	48·7	47·7	49·0
Settle R.	...	...	45·6	46·8	46·0	46·8
Todmorden R.	...	...	45·2	46·2	47·2	47·2

ANNUAL RAINFALL, in inches.

			1909	1908	1907	1906
Barnoldswick	...	...	42·42	44·21	41·73	44·53
Barnsley	...	...	30·21	22·59	26·34	26·22
Batley B.	...	...	?	19·22	24·8	23·4
Bingley	...	...	27·48	27·61	29·71	29·98
Bolton-upon-Dearne	...	...	26·46	18·49	24·79	23·71
Brighouse	...	...	36·30	31·0	34·0	33·0
Cleckheaton	...	...	32·25	25·32	30·09	28·48
Doncaster	...	...	27·32	22·69	28·03	24·18
Elland	...	...	33·13	31·81	34·60	37·70
Goole	...	...	24·1	22·25	27·52	24·56
Handsworth	...	...	34·28	27·96	34·78	33·89
Harrogate	...	...	31·97	26·01	34·44	30·86
Hebden Bridge	...	...	44·39	39·18	44·50	44·34
Horsforth	...	...	28·18	25·36	30·29	26·17
Ilkley	...	...	34·48	33·4	37·7	39·84
Keighley B.	...	...	33·0	32·11	37·24	37·25
Mexborough	...	...	25·83	18·24	22·81	20·44
Mytholmroyd	...	...	44·26	44·51	44·50	48·84
New Mill	...	...	49·3	?	50·8	51·0

ANNUAL RAINFALL, in inches.

Ossett	...	...	25.44	20.44	23.96	23.80
Oxenhope	...	...	47.12	?	49.24	51.94
Penistone	...	...	?	31.91	33.54	32.66
Pudsey	...	...	27.93	23.72	28.6	27.96
Selby	...	...	20.44	17.02	25.72	20.63
Silsden	...	...	29.01	29.08	31.27	30.31
Skipton	...	...	35.82	31.92	33.62	34.57
Swinton	...	...	28.24	21.25	25.19	22.72
Todmorden	...	...	53.84	38.96	45.55	56.76
Wakefield	...	...	26.39	19.69	22.35	23.01
Wath-on-Dearne	...	...	29.69	19.90	25.61	23.71
Wombwell	...	...	28.53	?	24.0	19.0
Worsborough	...	...	27.97	20.97	25.14	25.0
Barnsley R.	...	...	30.1	?	26.34	26.22
Bowland R.	...	...	49.7	47.7	47.7	47.7
Doncaster R.	...	...	28.64	24.48	28.52	25.37
Keighley R.	...	...	30.63	?	29.71	31.80
Kiveton Park R.	...	...	27.83	20.38	23.66	23.43
Sedbergh R.	...	...	54.44	57.01	58.66	58.73
Settle R.	...	...	44.99	45.23	42.52	47.38
Thorne R.	...	...	21.19	19.08	22.10	20.29
Todmorden R.	...	...	42.17	38.25	42.73	45.36
Wharfedale N.	...	...	32.1	?	35.32	30.0
Wortley R.	...	...	29.50	22.40	27.20	25.62

PART IV.

STATISTICAL ADDENDUM.

Money borrowed by Local Sanitary Authorities.—The total amount of loans for various purposes sanctioned by the Local Government Board, on the application of Local Authorities within the Administrative County, is shown in the following table:—

Loans sanctioned, 1888-1908.

YEAR.	PURPOSE.				Total Loans Sanctioned.
	Sewerage and Sewage Disposal.	Water.	Hospital.	Other.	
	£	£	£	£	£
1888	14,110	9,130	5,500	90,434	119,174
1889	25,933	53,479	—	71,968	151,380
1890	9,969	57,030	8,500	24,505	100,004
1891	64,035	63,205	8,300	88,518	224,058
1892	77,323	16,180	2,005	118,856	214,364
1893	101,143	27,250	9,150	140,639	278,182
1894	202,839	56,328	30,386	117,306	406,859
1895	289,370	81,176	11,635	255,110	637,291
1896	168,706	12,501	250	107,965	289,422
1897	147,400	18,432	12,420	149,122	327,374
1898	170,074	18,278	28,460	262,252	479,064
1899	192,654	43,760	16,990	183,281	436,685
1900	267,314	54,049	8,889	93,003	423,255
1901	177,759	17,150	27,097	309,616	531,622
1902	183,905	178,685	14,715	187,704	565,009
1903	178,442	66,361	9,246	159,365	413,414
1904	238,050	60,649	6,800	154,519	460,018
1905	92,923	10,787	6,676	88,447	198,833
1906	96,145	14,753	21,614	50,742	183,254
1907	67,109	126,282	2,580	61,505	257,476
1908	126,349	17,888	20,821	58,091	223,149

Loans Sanctioned during 1908.

1.—Urban Districts.	Purpose.	Yrs.	Amt.
			£
Baildon ...	Depot Purposes	40	660
„ ...	Mortuary	40	40
„ ...	Public Lighting	9	300
Barnoldswick ...	Gasworks Purposes	10	2,000
„ ...	Water Supply	21	256
Barnsley Boro' ...	Land for disposal of refuse	60	1,000
Batley Boro' ...	Market purposes	17	3,828
„ ...	Street improvement	60	530
„ ...	„	19	381
„ ...	„	16	189
Bingley ...	Pleasure grounds	60	3,600
„ ...	„	17	450
„ ...	„	5	3,500
„ ...	Sewage disposal	30	895
„ ...	„	15	105
„ ...	Sewerage	30	140
„ ...	Sewerage and sewage disposal	30	6,307
Bolton-on-Dearne ...	Pleasure grounds.	20	500
„ ...	Sewerage and sewage disposal	30	500
Brighouse Boro' ...	Gas undertaking	7	6,420
„ ...	Street improvement	5	110
„ ...	Land for street improvement.	60	888
Castleford ...	Fire station	30	325
„ ...	Mortuary	30	75
„ ...	Offices	30	350
Cudworth ...	Purposes of gas order	20	300
„ ...	Water Supply	30	1,799
Dewsbury Boro' ...	Market undertaking	45	460
Drighlington ...	Paying off loan	15	502
„ ...	„	6	360
Elland ...	Water Supply	30	1,000
Farsley ...	Public offices	30	200
„ ...	Sewerage	30	500
Flockton ...	Dwellings	60	1,000
Goole ...	Street improvement	15	794
Handsworth ...	Sewage disposal	30	95
Harrogate Boro' ...	Bath & mineral water purposes	25	2,888
„ ...	„	20	400
„ ...	„	10	827
„ ...	Depôt purposes	20	330
„ ...	Land for Depôt purposes	60	1,770
„ ...	Sewerage and sewage disposal	28	11,871
„ ...	Water undertaking	30	1,100
„ ...	„	26	2,635

1.—Urban Districts.	Purposes.	Yrs.	Amt.
			£
Heckmondwike ...	Sewage disposal	30	12,128
„ ...	„	15	1,000
Horsforth ...	Public offices	15	525
„ ...	Urinal	30	100
„ ...	Water undertaking	30	1,643
Keighley Boro' ...	Sewerage and sewage disposal	29	26,500
Liversedge ...	Land for Sewage disposal	60	234
„ ...	Sewerage and sewage disposal	30	1,731
Marsden ...	Cost of Provisional order	4	158
„ ...	Land for street improvement	30	395
Mexborough ...	Fire brigade station	30	480
„ ...	Market Purposes	26	1,300
Morley ...	Sewerage	30	370
Normanton ...	Pleasure grounds	60	1,060
„ ...	Land for street improvement	60	90
Ossett Boro' ...	Sewerage disposal	30	7,943
„ ...	„	15	450
„ ...	Sewerage	30	300
„ ...	Street improvement	20	144
„ ...	„	60	196
Penistone ...	Land for market purposes	60	1,300
„ ...	„	5	200
„ ...	Premises for market purposes	20	200
Pudsey Boro' ...	Land for sewage disposal	60	2,400
Rawmarsh ...	Isolation Hospital	10	545
„ ...	„	80	7,455
Rothwell ...	Private street improvement	6	3,011
„ ...	Sewage disposal	15	184
„ ...	Sewerage and sewage disposal	80	2,149
Sandal ...	Depôt purposes	30	500
Silsden ...	Fire Brigade purposes	20	1,022
„ ...	Water Supply	30	3,000
Skipton ...	Bridge widening	10	1,300
Sowerby ...	Sewerage	30	6,437
Sowerby Bridge ...	Gas undertaking	30	450
„ ...	„	10	650
Stocksbridge ...	Land for hospital purposes	30	350
„ ...	Sewerage	30	1,050
„ ...	Street improvement	80	100
Swinton ...	Land for sewage disposal	60	850
Thornhill ...	Sewerage	30	1,086
„ ...	Water Supply	30	221

1.—Urban Districts.	Purpose.	Yrs.	Amt.
			£
Thurlstone ...	Public offices	60	125
„ ...	„	30	875
Thurstonland ...	Land for refuse tip	60	270
„ ...	Sewage disposal	30	3,400
„ ...	„	15	200
Wakefield Boro' ...	Street improvement	20	323
„ ...	Land for Street improvement	60	5,335
„ ...	„	5	492
Wombwell ...	Steam road roller	10	453
II.—Rural Districts and Contributory places.	Purpose.	Yrs.	Amt.
			£
Halifax (Clifton) ...	Water supply	10	200
Hemsworth (Ackworth) ...	„	30	127
Hemsworth (Hemsworth) ...	Sewerage	30	252
Hemsworth (South Kirkby) ...	Water supply	30	688
Hemsworth (South Hiendley) ...	„	30	202
Hemsworth (South Elmsall) ...	„	30	221
Hemsworth (Shafton) ...	„	30	160
„ (Ryhill) ...	„	30	155
Hemsworth (Hemsworth) ...	„	30	917
Hemsworth (Havercroft) ...	„	30	331
Hemsworth (Brierley) ...	„	30	500
Hemsworth (Havercroft) ...	Sewerage and sewage disposal	30	454
Hemsworth (Hemsworth) ...	Water supply	30	209
Hunslet ...	Provision of public offices	30	885
„ ...	Land for public offices	60	525
„ ...	„	5	480
Keighley (East and West Morton) ...	Sewerage and sewage disposal	30	1,616
Kiveton Park (Dinnington) ...	„	30	10,725
Pateley Bridge (Upper Stonebeck) ...	„	30	416

II.—Rural Districts and Contributory places.	Purpose.	Yrs.	Amt.
			£
Pateley Bridge (High and Low Bishopside) ...	Water supply	30	1,300
Pontefract (Fair- burn) ...	„	28	180
Pontefract (Ferry Fryston) ...	Sewerage and sewage disposal	25	368
Pontefract (Ferry Fryston) ...	„	30	2,558
Ripon (Bishop Monckton) ...	„	30	2,550
Rotherham (Cat cliffe) ...	„	25	1,282
Rotherham (Tree- ton) ...	„	25	733
Skipton (Embsay- w-Eastby) ...	„	30	2,230
Skipton (Embsay-w- Eastby) ...	Land for sewage disposal	60	670
Skipton (Cowling)	Sewerage and sewage disposal	30	6,600
Skipton (Embsay- w-Eastby) ...	Sewerage	30	200
Skipton (Kettlewell- w-Starbottom) ...	Sewerage and sewage disposal	30	970
Skipton (Kettlewell- w-Starbottom) ...	Land for sewage disposal	60	250
Skipton (Cononley)	Sewerage and sewage disposal	30	3,000
Skipton (Appletree- wick) ...	Water supply	30	600
Wakefield (Criggle- stone) ...	Water supply	12	450
Wharfedale (Middle- ton) ...	Sewerage and sewage disposal	30	2,400
Wharfedale (Middle- ton) ...	„	15	250
North Elmsall P.C.	Burial accommodation	30	45
South Elmsall P.C.	„	30	52
South Kirkby P.C.	„	30	133

III.—Joint Boards.	Purpose.	Yrs.	Amt.
			£
Goole Joint Hospital Board ...	Hospital purposes	10	1,399
	„	32	7,601
Wakefield and Dis- trict Small-pox I. H. District. ...	„	30	3,471

**Provisional Orders granted and confirmed during 1909, under
the Public Health Act, 1875.**

District.	Object.
Shipley Urban District	... Altering certain local Acts

**Urban Powers conferred on Rural District Councils during
1908.**

Rural Sanitary Authority.	Section of Public Health Act.	Contributory Places affected.
Goole	... Section 157, so much as is not in force	Where not already in force
Hemsworth	Section 160 (1) Section 42, as to watering of streets	Great Houghton South Elmsall, South Kirby
Hunslet	Private Street Works Act, 1892 Private Street Works Act, 1892	Hemsworth (a certain street) Templenewsam (certain streets)
Kiveton P'k	Section 155, and Public Health (Buildings in Streets) Act, 1888. Sec- tion 3	Dinnington, Gilden Wells, Harthill and Woodhall, North and South Anston, St. John's-w-Throapham, Thorpe Salvin, Tod- wick, Wales, and Woodsetts
Ripon	Section 23 (3) (not al- ready in force) and 25 and 33 of the P.H.A.A. Act, 1890 Section 44 (not already in force) P.H.A., 1875, and Sections 23 (3), 25 and 33 of the P.H.A.A. Act, 1890	Sharow All, except Sharow
Rotherham	Section 154, so far as to enable the R.D.C. to purchase premises for widening or improving a certain street	All
Settle	... Section 171, so much as incorporates Sections 30 and 31 of the Town Police Clauses Act, 1847, with respect to fires	Settle

Rural Sanitary Authority.	Section of Public Health Act.	Contributory Places affected.
	Private Street Works Act, 1892, except as to sewerage	Settle (certain street)
Skipton ...	Section 39	Addingham
	Sections 150 (except sewerage) and 152	Thornton (certain street and part of street)
Tadcaster ...	Section 154, so far as to enable the R.D.C. to purchase premises for widening or improving a certain street	All

Bye-laws confirmed during 1908.

Subject.	West Riding Sanitary Authorities adopting same.
Common Lodging Houses ...	Ripon R.
Prevention of Nuisances ..	Pontefract Boro
„ ...	Shepley
„ ...	Ripon R.
Scavenging and Cleansing ...	Ripon R.
Public Walks and Pleasure Grounds ...	Keighley Boro
„ ...	Barnoldswick
„ ...	Holmfirth
„ ...	Shepley
„ ...	Yeadon
Open Spaces ...	Giggleswick (Settle R.)
Streets and Buildings ...	Pontefract Boro (2 series)
„ ...	Mexborough
„ ...	Shepley
„ ...	Barnsley R. (2 series)
„ ...	Goole R.
„ ...	Great Ouseburn R.
„ ...	Knaresborough R.
„ ...	Ripon R.
Water Supply (for the prevention of waste, misuse, etc.)	Pontefract Boro

DAIRIES, COWSHEDS, AND MILKSHOPS.—The following Authorities in the West Riding framed Regulations under the above Orders and deposited copies with the Local Government Board during 1908:—

Birstall, Drighlington, Otley, Queensbury, Scam-mouden, Stockbridge, Thurstonland, Wakefield R.

TABLE SHOWING THE DISTRICTS FROM WHICH SPECIMENS HAVE BEEN
RECEIVED IN THE BACTERIOLOGICAL LABORATORY DURING 1909.

<i>Urban Districts:—</i>					
Altofts	9	Honley	3	Sowerby	27
Ardsley	1	Horbury	30	Sowerby Bridge ...	6
Ardsley, East and		Horsforth	48	Soyland	17
West	8	Hoyland Nether ...	8	Springhead	--
Baildon	11	Hoylandswaine ...	8	Stainland - w. Old	
Balby - with - Hex-		Hunsworth	—	Lindley	4
thorpe	—	Ilkley	82	Stanley	14
Barkisland	41	Keighley B.	109	Stocksbridge	6
Barnoldswick	12	Kirkburton	19	Swinton	5
Barnsley B.	78	Kirkheaton	—	Thornhill	18
Batley B.	203	Knaresborough ...	4	Thurlstone	28
Bingley	167	Knottingley	39	Thurnscoe	6
Birkenshaw	1	Lepton	—	Thurstonland	5
Birstal	5	Linthwaite	6	Tickhill	5
Bolton-upon-Dearne	3	Liversedge	18	Todmorden B.	21
Brighouse B.	63	Luddendenfoot ...	1	Wakefield C.	495
Burley-in-Wharfe-		Marsden	6	Wath-upon-Dearne	2
dale	3	Meltham	4	Wheatley	—
Calverley	3	Methley	—	Whitley Upper ...	8
Castleford	26	Mexborough	1	Whitwood	14
Clayton	14	Midgley	1	Wombwell	16
Clayton West	5	Mirfield	114	Worsborough	2
Cleckheaton	8	Monk Bretton	—	Yeadon	20
Cudworth	5	Morley B.	10		
Darfield	5	Mytholmroyd	17		
Darton	12	Netherthong	—	<i>Rural Districts:—</i>	
Denby - and - Cum-		New Mill	3	Barnsley	1
berworth	5	Normanton	6	Bishopthorpe	3
Denholme	2	Oakworth	4	Bowland	3
Dewsbury B.	226	Ossett B.	12	Doncaster	6
Dodworth	1	Otley	47	Goole	22
Doncaster B.	187	Oxenhope	6	Gt. Ouseburn	38
Drighlington	1	Penistone	18	Halifax	—
Earby	1	Pontefract B.	14	Hemsworth	81
Elland	23	Pudsey B.	13	Hunslet	11
Emley	2	Queensbury	20	Keighley	—
Farnley Tyas	—	Ravensthorpe	8	Kiveton Park	7
Farsley	6	Rawdon	17	Knaresborough ...	11
Featherstone	61	Rawmarsh	14	Leeds (Roundhay	
Flockton	6	Ripon C.	32	and Seacroft)... ..	14
Garforth	5	Rishworth	32	Pateley Bridge ...	3
Gildersome	3	Rothwell	16	Penistone	2
Golcar	6	Roystone	2	Pontefract	10
Gomersal	51	Saddleworth	38	Ripon	—
Goole B.	1396	Sandal Magna	25	Rotherham	1
Greasbrough	—	Scammonden	—	Sedbergh	9
Greetland	—	Selby	81	Selby	10
Guisley	3	Shelf	—	Settle	96
Gunthwaite - and-		Shelley	—	Skipton	72
Ingbirchw.	—	Shepley	1	Tadcaster	183
Handsworth	33	Shipley	25	Thorne	8
Harrogate B.	38	Silsden	6	Todmorden	22
Haworth	48	Skelmanthorpe ...	—	Wakefield	7
Hebden Bridge	39	Skipton	55	Wetherby	80
Heckmondwike	2	Slaithwaite	—	Wharfedale	8
Hipperholme	3	Soothill Nether ...	5	Wortley	117
Holme	2	Soothill Upper ...	1	<i>Hospitals, etc.</i> ...	3771
Holmfirth	9	South Crosland ...	17		
		Southowram	—		
				Total	9210

No. 1. Births, Deaths, Annual Rates etc., 1909.

SANITARY DISTRICT	AREA (Acres)	Estimated POPULATION 1909	BIRTHS			DEATHS (Nett)			DEATHS (GROSS)	DEATHS (Nett) AT SUBJOINED AGES						ANNUAL RATES per thousand of Estimated Population.					Infant Mortality. (Deaths under 1 year per 1000 Births)	
			Males	Fe- males	Total	Males	Fe- males	Total		Under 1 Year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and up- wards	Birth Rate	Nett Death Rate	Zymo- tic Death Rate	Phthisis Death Rate	Respiratory Death Rate		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
I. URBAN																						
Altofts	1838	4227	85	74	159	31	23	54	50	9	10	3	1	13	18	37.6	12.8	0.9	0.5	1.9	57	
Ardley	1335	7904	146	139	285	65	52	117	151	48	10	1	6	37	15	36.1	14.8	0.3	0.6	2.8	168	
Ardley, East and West ..	4017	8478	135	113	248	58	47	105	92	20	8	4	6	36	31	29.3	12.5	0.1	0.6	1.7	81	
Baildon	2607	5807	60	51	111	34	40	74	68	10	4	1	2	26	31	19.1	12.7	nil	1.4	1.5	90	
Balby-w-Hexthorpe	1615	9931	164	176	340	57	63	120	179	34	10	5	5	49	17	34.2	12.1	1.1	1.0	1.9	100	
Barkisland	2424	1646	23	16	39	18	9	27	21	1	1	3	1	10	11	23.7	16.4	2.4	1.8	3.0	26	
Barnoldswick	2130	9116	116	95	211	63	50	113	100	20	9	2	5	48	29	23.1	12.4	0.2	0.8	2.5	95	
Barnsley Borough	2385	46423	822	792	1614	433	374	807	848	218	111	33	30	248	167	34.8	17.4	1.8	0.9	3.6	135	
Batley Borough	2039	31929	380	356	736	227	232	459	428	86	42	12	20	193	106	23.0	14.4	0.8	0.9	2.3	117	
Bingley	11677	19365	170	152	322	122	139	261	250	35	13	8	11	106	88	16.6	13.5	0.7	1.0	1.9	109	
Birkenshaw	924	1900	30	21	51	19	20	39	36	4	3	1	—	18	13	26.8	20.5	1.1	2.6	4.2	78	
Birstal	1235	6585	86	98	184	60	54	114	115	14	5	2	9	47	37	27.9	17.3	0.5	2.0	2.3	76	
Bolton-on-Dearne	2325	6981	171	158	329	57	56	113	108	49	25	5	3	22	9	47.1	16.2	3.4	1.1	3.0	149	
Brighouse Borough	2231	22658	209	202	411	140	143	283	246	40	27	10	16	102	88	18.1	12.5	0.9	1.1	2.7	97	
Burley-in-Wharfedale ..	3136	3962	38	25	63	24	21	45	68	10	2	1	1	13	18	15.9	11.4	nil	1.0	2.0	159	
Calverley	2106	2811	28	26	54	19	22	41	46	3	1	1	1	18	17	19.2	14.6	0.4	1.8	1.4	55	
Castleford	564	20606	380	383	763	194	161	355	344	124	63	15	15	90	48	37.0	17.2	2.9	0.6	2.8	162	
Clayton	1462	5486	42	39	81	27	46	73	177	5	1	2	5	20	40	14.8	13.3	0.2	0.9	1.8	62	
Clayton West	1142	1557	15	14	29	11	12	23	23	2	—	1	—	6	14	18.6	14.8	0.6	nil	2.6	69	
Cleckheaton	1756	13130	124	129	253	73	80	153	156	26	7	3	4	62	51	19.3	11.7	0.2	0.5	2.2	103	
Cudworth	1746	6360	141	123	264	47	61	108	97	43	18	4	5	28	10	41.5	17.0	2.5	0.5	3.0	163	
Darfield	2018	4968	106	88	194	38	33	71	67	26	8	3	2	20	12	39.1	14.3	1.2	1.0	2.8	134	
Darton	4361	8258	185	161	346	84	52	136	125	32	30	12	5	26	31	41.9	16.5	2.4	0.6	3.8	92	
Denby-and-Cumberworth ..	4302	3388	46	33	79	22	28	50	50	8	2	1	5	17	17	23.3	14.8	nil	0.6	2.1	101	
Denholme	2536	2620	21	24	45	25	34	59	57	7	2	1	1	27	21	17.2	22.5	0.4	0.8	4.6	155	
Dewsbury Borough	1471	26826	295	264	559	257	252	509	594	86	66	16	19	209	113	20.8	19.0	1.0	1.2	3.4	154	
Dodworth	1917	2954	58	64	122	22	24	46	44	12	5	2	—	18	9	41.3	15.6	1.0	0.3	3.4	98	
Doncaster Borough	1695	31650	359	360	719	248	239	487	453	93	46	16	20	183	129	22.7	15.4	1.2	1.2	2.4	129	
Drighlington	1135	4134	39	55	94	34	30	64	62	12	2	1	—	24	25	22.7	15.5	0.2	1.2	2.2	128	
Elland	1994	10773	93	85	178	62	61	123	106	14	8	7	5	48	41	16.5	11.4	0.8	1.5	1.6	79	
Emley	3556	1448	26	24	50	15	8	23	23	3	1	1	1	4	13	34.5	15.9	0.7	1.4	2.8	60	
Farnley Tyas	1784	406	7	3	10	3	4	7	7	1	—	—	1	2	3	24.6	17.2	nil	2.5	7.4	100	
Farsley	820	5795	53	65	118	37	46	83	75	10	5	1	—	36	31	20.4	14.3	0.5	0.7	2.2	85	
Featherstone	4431	14330	280	290	570	92	92	184	184	60	28	15	4	51	26	39.8	12.8	2.2	0.4	2.5	105	
Flockton	1108	1283	22	20	42	6	9	15	15	8	2	—	1	1	3	32.7	11.7	3.1	1.1	1.6	190	
Garforth	1519	3660	58	53	111	31	16	47	46	11	8	3	—	13	12	30.3	12.8	1.9	0.3	0.6	99	
Gildersome	992	2991	42	41	83	22	17	39	33	5	5	2	1	12	14	27.8	13.0	nil	0.7	2.0	60	
Golcar	1593	9387	109	104	213	66	55	121	116	9	7	7	8	61	29	22.7	12.9	0.5	1.4	1.8	42	
Gomersal	1099	3520	39	29	68	31	26	57	49	8												

No. II. Causes of Death, 1909.

SANITARY DISTRICT		DEATHS FROM SUBJOINED CAUSES																																
		FEVERS										OTHER CAUSES										DEATHS FROM SUBJOINED CAUSES												
		Small Pox	Measles	Scarlet Fever	Whooping Cough	Diphtheria and Membranous Group	Group	Typhus	Enteric	Other Continued	Epidemic Influenza	Cholera	Plague	Diarrhoea	Enteritis	Gastritis	Puerperal Fever	Erysipelas	Phthisis	Other Tubercular Diseases	Cancer—Malignant Disease	Bronchitis	Pneumonia	Pleurisy	Other Diseases of Respiratory Organs	Alcoholism—Cirrhosis of Liver	Veneral Diseases	Premature Birth	Diseases and Accidents of Parturition	Heart Disease	Accidents	Suicides	All other causes	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33		
I. URBAN																																		
Altofts	-	3	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	2	3	1	3	5	-	1	-	-	1	-	7	4	1	20		
Ardsley	-	1	-	-	-	-	1	-	-	-	-	-	-	4	-	-	1	5	7	5	11	11	-	1	2	1	11	-	10	5	1	38		
Ardsley, East and West .. .	-	1	-	-	-	-	2	-	-	-	-	-	-	2	1	-	-	5	3	3	4	10	-	2	-	-	5	-	11	2	2	52		
Baildon	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	8	1	3	2	7	-	-	2	-	2	-	13	-	-	36		
Balby-w-Hexthorpe	-	1	4	3	-	-	-	1	-	1	-	-	3	-	-	-	-	10	1	10	9	-	1	-	-	7	-	2	11	3	-	39		
Barkisland	-	-	1	1	3	-	-	-	-	3	-	-	2	1	-	-	-	3	1	1	4	1	2	2	-	-	2	-	20	1	-	8		
Barnoldswick	-	-	-	-	-	2	-	-	-	-	-	-	-	-	5	-	-	7	3	3	14	7	2	1	-	-	2	-	1	-	-	39		
Barnsley Borough	-	26	3	1	-	-	-	10	-	10	-	43	16	3	-	-	1	44	35	37	83	77	5	9	4	-	35	6	59	32	3	268		
Batley Borough	-	1	3	7	4	-	-	4	-	4	-	6	3	-	-	1	1	29	24	34	39	33	3	3	3	18	7	57	6	4	165			
Bingley	-	1	-	2	4	-	-	4	-	3	-	2	1	1	1	-	-	19	14	19	22	11	3	7	3	2	7	1	32	8	1	93		
Birkenshaw	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	1	3	2	5	1	2	2	-	2	2	1	-	-	11		
Birstal	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	13	8	5	10	5	-	5	1	6	-	8	-	-	4	46		
Bolton-on-Dearne	-	5	9	-	-	-	-	2	-	-	-	8	-	-	-	-	-	8	10	4	17	3	1	-	1	1	12	-	4	1	-	27		
Brighouse Borough	-	1	2	8	5	-	-	3	-	7	-	1	2	-	-	-	-	26	5	16	31	29	1	3	-	12	2	30	4	6	89			
Burley-in-Wharfedale .. .	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	4	-	2	4	4	-	2	-	-	4	4	1	-	-	19		
Calverley	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	5	-	3	2	2	-	-	3	-	2	1	6	1	1	14		
Castleford	-	12	3	4	2	-	-	1	-	1	-	38	-	-	-	-	-	12	22	15	28	27	2	-	-	1	13	4	36	5	2	127		
Clayton	-	-	-	-	1	-	-	-	-	2	-	-	-	-	1	-	-	5	2	7	4	6	-	-	-	1	1	-	9	2	-	32		
Clayton West	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	1	-	-	-	-	-	3	-	-	12			
Cleckheaton	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	6	4	10	20	6	3	7	4	-	9	1	12	1	-	66		
Cudworth	-	-	-	6	-	1	-	5	-	1	-	5	-	2	-	1	-	3	2	-	10	9	-	-	-	1	5	1	6	7	-	43		
Darfield	-	1	-	1	-	-	-	-	-	-	-	4	-	-	-	-	-	5	1	7	6	8	-	-	1	-	3	2	11	2	-	19		
Darton	-	13	1	-	1	-	-	-	-	3	-	5	-	-	-	-	1	5	4	6	18	13	-	4	-	9	1	6	2	-	-	44		
Denby-and-Cumberworth .. .	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2	2	6	2	4	1	-	-	-	4	-	7	2	2	16		
Denholme	-	-	1	12	1	-	-	5	-	4	-	9	5	-	1	3	-	32	25	35	40	49	2	6	1	4	16	2	49	17	2	187		
Dewsbury Borough	-	-	-	1	-	-	-	1	-	1	-	1	2	-	-	-	-	1	-	6	5	5	-	2	1	3	2	1	5	-	-	11		
Doncaster Borough	-	5	2	13	7	-	-	2	-	13	-	10	3	-	1	1	-	40	4	36	37	39	-	2	8	1	9	3	60	10	-	181		
Drighlington	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	5	2	3	5	4	-	2	-	3	-	10	1	-	-	27		
Elland	-	2	-	1	2	-	-	1	-	-	-	3	-	1	-	-	-	16	3	7	6	10	1	2	-	1	2	17	-	1	47			
Emley	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	3	2	-	-	-	-	-	6	-	-	6			
Farnley Tyas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	1	-	-	2			
Farsley	-	-	-	2	-	-	-	-	-	1	-	1	-	1	-	-	-	4	2	4	9	4	-	4	3	-	3	1	8	-	-	36		
Featherstone	-	6	2	1	4	-	-	5	-	1	-	14	1	-	-	1	-	6	7	1	18	18	-	1	1	-	11	1	20	5	1	59		
Flockton	-	1	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	7	1	1	1	-	-	-	-	-	-	-	-	-	5		
Garforth	-	6	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	1	1	-	2	1	-	1	1	7	2	2	17		
Gildersome	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	1	3	3	2	1	-	-	3	-	6	1	-	15			
Golcar	-	1	1	1	2	-	-	1	-	1	-	-	-	-	1	-	-	13	5	11	4	13	-	-	2	-	2	12	2	3	47			
Gomersal	-	1	-	2	-	2	-	2	-	-	-	-	1	-	-	-	-	4	3	4	5	3	-	-	2	-	2	4	1	1	22			
Goole	-	1	-	4	5	-	-	1	-	2	-	4	-	1	1	1	-	17	14	14	21	27	-	-	-	3	15	4	25	12	-	81		
Greasbrough	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	3	2	4	3	8	-	-	-	-	-	7	1	3	23			
Greetland	-	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	-	9	1	4	4	3	-	-	-	3	-	4	-	-	21			
Guiseley	-	-	-	-	2	-	-	1	-	2	-	-	-	-	-	-	-	7	1	2	4	3	-	-	2	-	1	-	11	2	-	25		
Gunthwaite and Ingbirchw. .	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	1	-	2		
Handsworth	-	20	-	2	-	-	-	1	-	2	-	1	2	3	1	-	-	4	4	12	7	8	1	4	1	-	6	3	19	4	-	70		
Harrogate Borough	-	6	1	4	-	-	-	1	-	4	-	2	5	1	1	1	-	26	7	28	24	-	6	9	2	10	2	44	6	-	1	140		
Haworth	-	-	-	1	1	-	-	-	-	2	-	1	-	-	-	-	-	8	3	8	8	4	1	-	-	-	2	11	-	-	37			
Hebden Bridge	-	2	-	2	-	-	-	1	-	-	-	3	-	-	-	-	-	10	2	7	5	6	1	-	-	1	-	17	-	-	42			
Heckmondwike	-	-	-	6	-	-	-	-	-	1	-	2	-	-	-	-	-	7	6	12	10	21	-	-	1	1	2	12	2	-	53			
Hipperholme	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-	-	3	-	9	3	-	-	-	-	1	-	9	2	-	30			
Holme	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2			
Holmfirth	-	-	-	-	-	-	-	2	-	7	-	1	-	-	-	-	-	13	2	12	9	3	-	-	-	8	-	21	4	3	50			
Honley	-	-	-	-	1	-	-	2	-	-	-	-	1	-	-	-	-	4	5	10	10	5	-	-	3	-	2	12	1	1	18			
Horbury	-	-	-	-	3	-	-	1	-	-	-	-	2	2	1	-	-	3	4	7	11	9	-	-	-	-	14	2	1	34				
Horsforth	-	-	-	-	-	-	-	-	-	4	-	1	-	2	-	-	-	16	2	8	7	9	-	1	1	-	-	5	-	2	48			
Hoyland Nether	-	15	-	3	-	-	-	1	-	1	-	5	1	-	-	-	-	8	8	2	22	16	-	1	2	-	4	3	15	4	-	71		
Hoylandswaine	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	-	-	-	-	-	-	1	1	3			
Hunsworth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	-	-	-	-	-	-	-	-	-			
Ilkley	-	-	-	2	-	-	-	-	-	3	-	-	2	-	-	-	-	8	3	15	2	6	-	-	4	-	8	-	7	1	3	14		
Keighley Borough	-	9	3	2	7	-	-	2	-	18	-	7	1	-	-	-	-	50	23	31	54	48	2	3	-	5	21	6	96	13	6	219		
Kirkburton	-	-	1	6	-	1	-	3	-	3	-	-	-	-	-	-	-	3	-	3	6	6	1	-	-	-	1	1	5	-	-	17		
Kirkheaton	-	-	-	-	1	-	-	1	-	-	-	1	-	-	-	-	-	2	-	3	3	-	-	2	-	-	1	-	9	-	2	14		
Knaresborough	-	2	-	-	-	-	-	-	-	2	-	-	1	-	-	-	-	5	1	8	6	6												

No. III. Notified Cases of Infectious Disease, 1909.

SANITARY DISTRICT	CASES NOTIFIED OR OTHERWISE ASCERTAINED														CASES REMOVED TO HOSPITAL					MEDICAL OFFICER OF HEALTH. (Those whose names are printed in italics have ceased to hold Office.)	
	Small Pox	Cholera	Diphtheria and Membr. Group.	Erysipelas	FEVERS.							Whooping Cough	Small Pox	Diphtheria	Scarlet Fever	Enteric Fever	Other				
					Scarlet	Typhus	Enteric	Relapsing	Continued	Puerperal	Plague							Measles			
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
I. URBAN																					
Altofts	-	-	1	2	27	-	7	-	-	1	-	E	-	-	1	20	5	-	R. B. Sandiford, L.R.C.P.		
Ardsley	-	-	-	1	31	-	8	-	-	-	-	-	-	-	-	29	5	-	J. Townsley, M.B., C.M.		
Ardsley E. & W. x	-	-	7	10	17	-	5	-	-	1	-	*	P	-	1	17	5	-	B. G. Ewing, M.B.		
Baildon	-	-	3	6	1	-	2	-	-	2	-	-	-	-	-	2	-	-	A. Macvie, M.D.		
Balby-w-Hexthorpe	-	-	16	14	39	-	2	-	-	-	-	*	-	-	13	32	1	-	D. L. Anderson, L.R.C.P., D.P.H.		
Barkisland	-	-	12	-	1	-	1	-	-	-	-	E	P	-	-	94	-	-	J. Hovle, M.B., C.M.		
Barnoldswick .. .	-	-	7	3	226	-	2	-	-	-	-	P	P	-	7	87	52	-	H. C. Alderton, L.R.C.P.		
Barnsley Borough ..	-	-	11	16	104	-	58	-	-	1	-	*	P	-	6	36	19	-	F. J. Sadler, M.B., D.P.H.		
Batley Borough x	-	-	25	13	122	-	24	-	-	1	-	34	78	-	6	36	19	-	J. M. Clements, M.D., D.P.H.		
Bingley	-	-	35	15	40	-	9	-	-	1	-	P	P	-	29	35	7	-	H. Angus, M.D.		
Birkenshaw	-	-	2	3	7	-	-	-	-	-	-	-	P	-	1	6	-	-	R. Forsyth, M.D.		
Birstal	-	-	1	16	10	-	7	-	-	-	-	-	-	-	-	9	7	-	R. Forsyth, M.D.		
Bolton-on-Dearne ..	-	-	6	6	98	-	5	-	-	-	-	E	E	-	-	71	4	-	F. J. Burman, L.R.C.P.		
Brighouse Borough ..	-	-	19	7	124	-	7	-	-	1	-	P	P	-	11	102	3	-	F. W. Martin, M.R.C.S.		
Burley-in-Wharfedale	-	-	-	4	4	-	2	-	-	-	-	-	-	-	-	4	1	-	H. Hebblethwaite, M.R.C.S.		
Calverley	-	-	-	4	2	-	1	-	-	-	-	P	-	-	-	1	1	-	N. A. A. Hughes, M.R.C.S.		
Castleford	-	-	21	7	96	-	15	-	-	2	-	E	*	-	10	41	7	-	W. F. Chrispin, L.S.A.		
Clayton	-	-	2	3	6	-	5	-	-	-	-	-	-	-	2	4	3	-	S. T. Beckett, L.R.C.P., L.R.C.S.		
Clayton West	-	-	-	3	10	-	-	-	-	-	-	-	-	-	-	-	-	-	D. A. MacGregor, M.B., C.M.		
Cleckheaton	-	-	1	1	15	-	-	-	-	-	-	P	*	-	1	13	-	-	J. A. Sutherland, M.B., C.M.		
Cudworth	-	-	-	12	31	-	22	-	-	-	-	P	E	-	-	29	20	-	J. L. Elliott, L.S.A.		
Darfield	-	-	7	8	24	-	1	-	-	-	-	-	*	*	-	7	24	-	-	R. F. Castle, M.B.	
Darton	-	-	15	13	15	-	9	-	-	-	-	E	-	-	3	7	3	-	R. Millar, M.B.		
Denby and Cumberworth	-	-	9	2	17	-	-	-	-	-	-	-	-	-	2	8	-	-	D. A. MacGregor, M.B., C.M.		
Denholme	-	-	-	-	1	-	-	-	-	-	-	-	*	-	-	-	-	-	J. Jackson, F.R.C.S., L.R.C.P.		
Dewsbury Borough ..	-	-	17	10	67	-	11	-	-	1	-	-	-	-	13	56	7	-	T. O. Halliwell, M.R.C.S.		
Dodworth	-	-	2	1	9	-	6	-	-	-	-	-	-	-	-	2	4	-	A. E. White, M.D.		
Doncaster Borough ..	-	-	56	16	59	1	16	-	-	3	-	*	*	-	35	53	10	1	D. L. Anderson, L.R.C.P., D.P.H.		
Drighlington m	-	-	1	1	14	-	1	-	-	2	-	-	-	-	-	14	-	-	R. Forsyth, M.D.		
Elland	-	-	8	4	6	-	5	-	-	1	-	P	*	-	-	-	1	-	R. N. Denning, M.D., B.A.		
Emley	-	-	-	3	-	-	-	-	-	-	-	-	*	-	-	-	-	-	W. Bell, M.B.		
Farnley Tyas m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	W. H. Thorman, M.R.C.S.		
Farsley	-	-	4	3	7	-	2	-	-	-	-	-	*	-	4	5	-	-	J. R. Lambert, M.B.		
Featherstone	-	-	30	10	96	-	31	-	1	-	-	P	*	P	23	92	30	-	A. Buncl, M.B., C.M.		
Flockton	-	-	1	3	15	-	2	-	-	-	-	P	*	-	-	6	-	-	J. A. Smith, M.R.C.S.		
Garforth	-	-	1	1	12	-	-	-	-	-	-	-	*	*	-	9	-	-	R. Haygarth, M.B., C.M.		
Gildersome m	-	-	2	1	1	-	3	-	-	-	-	-	-	-	-	3	-	-	W. H. Holliday, M.B.		
Golcar	-	-	5	5	13	-	1	-	-	1	-	P	P	-	1	10	1	-	A. G. Webster, M.R.C.S.		
Gomersal	-	-	14	2	1	-	4	-	-	-	-	E	-	-	9	1	4	-	E. R. F. Mason, L.R.C.P.		
Goole	-	-	88	19	29	-	6	-	-	4	-	P	*	-	70	19	6	2	A. M. Erskine, M.D., D.P.H.		
Greasbrough	-	-	5	6	28	-	1	-	-	-	-	E	-	-	5	17	-	-	J. F. Cheesewright, L.R.C.P., M.R.C.S.		
Greetland m	-	-	2	8	6	-	6	-	-	-	-	E	P	-	-	-	-	-	M. B. Potts, M.B., L.S.A.		
Guiseley m	-	-	5	4	2	-	4	-	-	-	-	P	P	-	4	2	3	-	W. H. Cheetham, M.D., D.P.H.		
Gunthwaite & Ingbirchw.	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D. A. MacGregor, M.B., C.M.		
Handsworth	-	-	24	20	24	-	7	-	-	-	-	E	-	-	8	11	7	-	A. W. Scott, M.D.		
Harrogate Borough ..	-	-	16	11	33	-	6	-	-	2	-	P	*	-	12	23	4	-	W. J. C. Ward, L.R.C.P., M.R.C.S.		
Haworth	-	-	15	4	33	-	2	-	1	-	-	-	-	-	7	31	1	-	F. E. Atkinson, L.R.C.P., M.R.C.S.		
Hebden Bridge	-	-	24	3	10	-	1	-	-	-	-	*	*	-	13	7	-	-	J. Lawson, M.B., B.A.		
Heckmondwike x	-	-	-	3	12	-	7	-	-	1	-	-	*	-	-	2	3	-	H. T. Broughton, M.R.C.S.		
Hipperholme	-	-	4	1	13	-	1	-	-	-	-	-	-	-	-	10	-	-	R. Davidson, M.D.		
Holme	-	-	-	-	-	-	-	-	-	-	-	E	-	-	-	-	-	-	R. H. Trotter, M.D.		
Holmfirth	-	-	3	5	19	-	5	-	-	-	-	E	P	-	2	14	4	-	R. H. Trotter, M.D.		
Honley	-	-	9	1	4	-	4	-	-	-	-	E	-	-	5	3	4	-	R. H. Trotter, M.D.		
Horbury	-	-	8	16	50	-	5	-	-	-	-	-	-	-	5	47	5	-	W. S. Garden, M.D.		
Horsforth	-	-	3	6	17	-	3	-	-	2	-	-	-	-	-	10	-	-	H. Bulev, M.R.C.S.		
Hoyland Nether	-	-	8																		

